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# THE MARYLAND FARMER:

DEVOTED TO  
Agriculture, Horticulture, Rural Economy & Mechanic Arts.

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## DAIRY FARMING—HOW TO MAKE GOOD BUTTER.

The *Stock Journal* of Chicago publishes an excellent essay by the Hon. Charles W. Murtfeldt, Secretary of the Missouri Board of Agriculture on the management of the Dairy and the Stock. The entire article is much too long for our columns, but many of the suggestions are so very good that we propose to give our readers the benefit of them in the course of this article.

Dairy farming has only in rare instances been carried on in Maryland on a large scale, nor has it, with the exception of isolated cases in the neighborhood of large cities and towns, been found as profitable as it is reported to be at the North and West. The reason for this may be that there has never been any systematic attempt to make the business an exclusive one and to conduct it on a large scale. Our dairymen are principally such as supply of themselves a small circle of customers, or who depend upon their agents to do so. We have neither great dairy farms like those of Orange county, New York, nor great companies organized to control the trade, and giving to the farmer but a scanty remuneration for his labors. We are better without these. But as Dairy farming lies at the very foundation of good husbandry, we should be glad to see it more generally undertaken, and our people more thoroughly awakened to the advantages of having a thorough knowledge of selecting, sheltering and feeding stock, and of the manner of making milk and butter for the market. Mr. Murtfeldt very justly remarks that "theory without practice amounts to nothing. We must have a clear conception of what we desire to accomplish, a correct theory how to do it; the requisite skill to carry out our theory, and the common sense to adapt our practice to incidental and ever varying circumstances."

The first point in making good butter is good food, and in sufficient variety to stimulate and keep up the appetite of the milch cows. All the grasses—timothy, orchard grass, blue grass and clover—are suitable to this purpose; and to them may be added broadcast corn—the latter being an important addition as a means of carrying the stock

through that portion of the summer when the hot suns have deprived the grasses of their succulence. When winter comes on, Mr. Murtfeldt suggests that the cows should be fed freely on roots and meal, alternating the latter with dry but nutritious provender, and changing the nature of the food frequently. The kind of cows to be selected for a dairy he leaves to the judgment of the dairyman and to the requirements of the locality—some cows doing better in some places than others. But he lays down, as an axiom, that good dairy farming can only be carried on with cows of a good breed. His directions on the proper method of milking are so excellent and so much to the point that we give them entire. He says:

"We will suppose the time of the year to be the month of June and the time of day to be six p. m. We have a dairy, say of twelve cows, and there are two or three milkers. The pails, bright tin or well-scoured patent buckets, having been well scalded and thoroughly sweet, are taken in hand, and we go out to the yard, or barn, if the cows are used to being put in the stanchions. Every milker milks the same cows, always, if at all practicable; his or her hands should be clean, and, if possible, *not hard*; if a field hand must necessarily do some of the milking, a good washing of hands in warm water, not so much for the immediate cleansing, although that is indispensable, as for the softening of hands, will be found a great help. As we sit down with our pails by our *side*, we see that the cow's bags and teats are clean also, because it takes but a little manure to contaminate a whole pailful of milk. Always treat your cows gently; lose not your temper under any provocation. Remember, you are dealing with a dumb brute, which you can by patience and kindness *educate* to be gentle and tractable; or, by opposite treatment, to be contrary, ill-natured, and, as far as profit goes, "of no account." Let the milking be done easily as to motion, but as rapid as possible after the milk flows freely, taking one back and one front teat crossway, because it is easiest for the hands, and be sure to milk perfectly clean. In Switzerland a good hand is to milk a cow in six minutes, or ten in an hour, inclusive of the time to carry in the milk. It can be done in this

time, even if each cow gives from ten to twelve quarts at a milking. Where a large dairy is kept, good milkers should not be required to carry in the milk. Conversation in the milk-yard is to be avoided. It is also recommended to milk your cows in the same order, though it is not essential unless you have a cow that will not wait. I have known such, and they are to be found in every dairy, and generally give the most milk. When the pails are full, they are carried immediately to the milk-room or cellar, where the milk is strained into bright tin pans, each holding from six to ten quarts, but which ought never to be more than three-fourths filled. I recommend the use of a strainer-pail as being very convenient; but, besides this, an independent strainer, to ensure thorough work. These utensils must, of course, be well cleaned and scalded each time they are used. In the first washing the use of soap is recommended—fatty substances can not well be removed without—next use pure water, and scald well after that. The common practice of setting pans and pails out into the sunshine is a good one. Let it be understood that absolute cleanliness in every stage of the proceedings is necessary to success."

The milk room should be cool, airy, and well ventilated, but protected from high winds. Both the buttery and milk room should have a northern or north-eastern exposure, if these can be obtained, without sacrificing other conveniences—they should be kept perfectly clean and sweet, free from all odors arising from fresh meats, vegetables or the kitchen. The frequent use of lime or whitewash is strongly recommended as the best means of purification.—Milk and cream are very easily affected by even slight neglect in this particular, therefore, whether room or cellar, it should be only used for the legitimate purposes of the dairy.

The temperature of the rooms—and this is an important matter—should be kept at about sixty degrees, and to ascertain this a thermometer should invariably be consulted, as there ought to be no guess work—at this temperature all the cream rises before the spiring of the milk prevents it, and before its quality is affected injuriously. The milk should be skimmed every thirty or thirty-six hours, taking care that only a small portion of the milk is taken off with the cream. Mr. Murtfeldt makes a distinction between the *best* butter and the *most* butter which is well worth nothing. He says: "I hesitate not to say that the *best* butter is made when cream with about a fourth of the milk is churned. The *most* butter is made where all the milk is allowed to sour and is churned with the cream. A cream-pan holding about twenty-four quarts is to be preferred to a jar. It allows more air. Every time new additions are made to the cream all the contents are gently stirred, so that all *ripen* together. No cream

should be added if churning is to be done within four hours, because it needs about that time for the mass to become homogeneous or even tempered.—False cream is found in the butter if this rule is neglected, which is not only a waste, but a serious defect to good butter."

In a dairy of six cows or more, churning should be done every day except Sunday, churning *twice* on Saturday instead, and the churning ought to take place early in the morning. The temperature of the cream should be tested by the thermometer, and should range when churning commences, at from sixty to sixty-two degrees. If the cream is too cold, add hot, but not *scalding* water; if the cream is too warm, add cold water, so that in either case the requisite temperature—sixty to sixty-two degrees, shall be obtained. The dash should be gently moved all the time hot or cold water is added, and if the cows have been regularly salted once or twice each week, the milk ought to come in from twenty to thirty minutes. The following suggestions in regard to the proper treatment of butter are admirable:

"When your butter is come, and well gathered by a few strokes of the dasher, draw off your buttermilk, pour in sufficient water to cover the butter, and move the dasher a few more times; this will quickly separate the buttermilk; if not done to your satisfaction, repeat, and perfect the separation by hand and ladle. Here is one of the great points of aiding the *keeping quality* to your butter, viz: perfect separation of the buttermilk from the butter.—If you undertake this by the use of the ladle alone, without water, your butter will be worked too much the small globules will be broken, and your butter become salvy and greasy and can never be classed as number 1."

The final process is salting the butter. When the butter is well separated from the milk, it should be placed in a wooden bowl or tray, which has previously been well scalded to keep the butter from sticking. After the few drops of water that will ooze out from the mass are poured off, there should be added to every pound of butter three quarters of an ounce of fine salt, "Liverpool blown," or the best "Ashton." This salt should be partially worked in *not with the hands*, but with the ladle. The salt is first evenly sprinkled over the mass and the butter is lapped over so that the ladle does not come in contact with the salt. The butter should not be much worked at this time, but after the salt has been well incorporated, nothing more should be done with the butter for three or four hours. By the end of that time the salt will have lost its identity in the butter. A final working then takes place, the brine is poured off and when it has become perfectly colorless, and therefore free from buttermilk, the butter is ready to be put up in any required form for a market.



## THE WINTER.

Our farmers should no longer delay making all their preparations for the approaching winter. The larger and more usual operations of the farm are now over, but there are smaller and yet most necessary duties which in the multitude of other cares ought not to be overlooked or postponed to a future season. There may be breaks in the fences to repair, there may be loose boards on the barn to nail firmly or replace, there may be shingles blown or rotted off the roof, there may be shedding required for the perfect protection of the stock, and there may also be numberless other matters to be attended to which although of comparatively little importance, at this time, if neglected will grow worse year by year, until the result will be a farm run to weeds and briars, out-buildings in a state of dilapidation, farming utensils unfit for use when most needed and all those evidence of general shiftlessness which mark the careless folly of one who has injured by his improvidence the character of the farm he undertook to till, and who must necessarily suffer in his own reputation, as a natural consequence. These evidences of slovenliness show even worse than they really may be, whenever they are contrasted with cleanly fence rows, neat buildings and the tidiness and thrift apparent in adjacent farms, and outsiders will inevitably draw unfavorable conclusions concerning the man who thus neglects his duties. For the sake then of maintaining the good opinion of others as well as for his own interest as a means of keeping up that proper respect for himself and his family, which is so essential to the full enjoyment of life in the country, the farmers should attend to these things now, and promptly. The spring season certainly leaves but little time for such work. It is a season of preparation and of planting, and requires a strict and almost exclusive devotion to its own peculiar labors. In the summer and early autumn, come the harvest and the preparation of the crops for a market. Later autumn and the first part of the winter should see all things put in order so that the usual routine of farm life shall begin again in the spring unencumbered with any of the arrears of the past year.

It is at all times prudent to provide against a possibly severe winter. Recent winters have been remarkably open but no dependence should be placed on that fact, in respect to such as may come hereafter. The winters move in cycles, according to some writers—now open for several years, now severe for several others, but even if this be true they are marked by irregularities, and a hard winter may be interposed between a number of mild ones. It is very possible that on account of the open winters of late, many things may have been neglected

on the farm, which if severe winters had been anticipated, would have been properly attended to.—Whatever therefore the coming winter may be it is much better to be on the safe side, and not to allow severe weather if such should come, to find the stock upon the farm without adequate protection, and the domestic arrangements such as are less conducive to the comfort of the family than they ought to be.

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 Peas and Pea Vine Hay.

An Alabama correspondent in the *Southern Cultivator*, gives his method of raising peas with corn :

The pea crop is underrated, and not appreciated. It is easily raised, either alone or with corn ; succeeds best planted alone in drills, the distance the same as for cotton, for, in proportion to the strength of the land, is the distance we give cotton or peas. If planted with corn, then, just before sowing it, run a furrow in the middle of the balk with one of Brinly's Bull Tongue plows up to the beam ; drop your peas and cover with the same plow—now side the corn and break out the balance of the balk. When the time arrives for the second plowing the peas are up ; so you cultivate both corn and peas, plowing deep as before. The third working may be with a cultivator, sweep or harrow—very shallow.

When the fodder is gathered it will not be long before the pea vines will run together, and the best way is to cut them off close to the ground and let them cure, which they will do in about two or three days ; then winrow them up and commence to house. This must be done in dry weather, for if they get wet, they will mould, sour, and perhaps rot. If well cured, the vines are equal to any roughness for stock of any kind.

In 1858, I commenced planting in the Mississippi Bottom, and as I gave the corn the last working, the first of June, I planted the speckled bunch pea. First of October, I gathered and housed roughness for fifteen head of mules, and other stock, for two years, off of twenty-four acres. What pays better ?

I have a splendid crop this year, in Alabama, planted in the middle, between my corn, as described above. I lose no time when planting, for when I run the three furrows in planting the peas, I am breaking out the balks.

In thin land, three by six feet, is good distance for corn, with a row of peas between. The distance given to the corn keeps it from firing. Another advantage of the pea vines is, they shade the ground and keep up a moisture, and your corn is heavier.

Dig surface drains to carry off the surplus water of spring, and thereby forward the operations of seed time.

## Our Agricultural Calendar.

### Farm Work for November.

We have now reached that season of the year when the operations of the farm commence to be of a desultory character. The crops yet in the ground are to be stored away carefully. The fences are to be looked after; wood is to be cut, and everything done that is necessary to provide for the comfort of the inmates of the household, and to keep the stock in good condition throughout the winter. In respect to fuel, where the farm force is large, or where the farmer's family need occupation through what may be called by comparison, "the dull months," it may be of advantage to use wood. It is certainly the healthiest fire that can be made, and in all respects the more social. But where wood is scarce, or the farm labor is limited, coal if it can be had at anything like a reasonable price, is by far the cheapest and handiest fuel for family use. The best fire that can be made on the open hearth, where a broad grate fitting to the hearth is used, is a fire of Cumberland coal supplemented and improved by a great well seasoned hickory or beech back log. It is perfectly luxurious. But we have touched upon some of these matters elsewhere, and now proceed to the work of the month:

#### Materials for Composts.

Every possible opportunity should now be taken to collect materials for compost. All rough, fibrous matters, the scrapings of ditches, the turf of headlands, marsh mud, and the leaves and underlying humus of the woodlands may all be used with great effect. These materials composted with barn-yard manure at the rate of one load of the latter to three of the former, and piled up strata by strata until the heap reaches a height of six feet, will, after fermentation, and especially with the addition of the black water of the barn-yard occasionally poured on the heap to moisten it and accelerate its action, produce a large quantity of manure for spring use and of the best quality.

#### Ploughing Stiff Clays.

All stiff clays should be ploughed, if not too wet at the time, during the fall months, and suffered to lie in rough fallow throughout the winter. The heavy soil is thus disintegrated and mellowed by the frost, and their fertilizing constituents rendered soluble for the use of the spring crops. But no clays should be ploughed whilst they are wet or they will clod badly, and will be correspondingly injured, nor should light, sandy soils be ploughed during the winter at all.

#### Fattening Hogs.

Warm and comfortable pens, well bedded, and a good supply of charcoal are quite as essential as an abundance of food in promoting the ready fattening of hogs wherever economy is consulted. Experience has repeatedly demonstrated the fact that all kinds of stock when warmly housed will fatten upon one-half the quantity that is required by cattle exposed to the rigors of the winter. The process of fattening hogs should be commenced early. They should be put into their pens as soon as the supply of mast begins to fail, and from that time they should be supplied, though without waste, with all the food they can eat. It is the best plan to furnish them with small quantities of food often, and at regular hours, than to supply them with large quantities at once. As hog manure is exceedingly rich in nitrogen and the phosphates, every good farmer will endeavour to secure as large a quantity as he can by keeping the pens well bedded.

#### Storing Roots.

All roots that yet remain in the ground should now be taken up carefully, stored away and well protected against frost.

#### Corn Stalks.

Where hay is scarce or valuable, it may be economized by cutting up the corn-stalks in a cutting-box and supplying the stock with this rough provender. They should not, as a rule, be given alone, but the chaff should be moistened and cornmeal or brown-stuff or shorts slightly sprinkled over it.

#### Milch Cows.

If cows are expected to be kept up to their milk during the winter season they should be well fed. Dry food is not sufficient, however good it may be in quality. They require roots occasionally, and slops and succulent messes, and with these additions will not only produce good quantities of milk, but also an extra quantity of butter. By a free use of carrots the yellow color so much admired in butter may be preserved during the whole winter. [With respect to the best mode of making butter, we refer to an article published elsewhere.]

#### Young Cattle.

It will not do to expose young cattle to the inclemencies of the weather, or to give them only rough provender. Once stunted they never thrive so well afterwards. They should be warmly housed and regularly though not profusely fed, and their food should be of good quality. Turn them out in bright moderate weather for exercise, and see that they have free access to pure water.

#### Working Animals.

It is of equal importance that working animals should receive generous treatment. They should be well fed three times a day, should have salt at



least twice a week, and besides, the usual supply of good hay or other provender, cut up and mixed with corn ground with the cob, should have occasional messes of roots.

#### **Sheep.**

See that these receive proper attention. Although our winters are sometimes quite mild they should have sledding prepared for them, and due care should be taken to make them comfortable. The floors of the sheds should be strewed lightly with straw, leaves or other litter, frequently renewed and occasionally sprinkled with plaster. Feed boxes or troughs should be arranged round the sheds and regularly filled with hay, straw, or corn fodder, and at intervals they should have a small supply of grain. A yard for exercise is also essential to the health of the flock, and they should have easy access to rock salt placed in boxes under cover.

#### **Apples.**

Gather these and store them carefully away. Apples packed by hand are always the best, as they are less liable to be bruised, and therefore less subject to rot. A bruised apple is certain to decay, and in the process of decaying is very apt to affect others.

#### **Granaries and Corn Houses.**

Cleanse these as advised last month.

#### **Draining Wet Lands.**

Wet lands may now be drained and laid dry for future use. Draining not only fits the soil for the reception of crops, but it promotes the health of a neighborhood. By a thorough system of drainage, carried out in a district, and by free liming, even the malaria which may have been common to it previously will be conquered and disappear. Where, however, there are broad stretches of marsh land, these should be planted out by belts of dense woodland, and thus the spread of the malaria will in a great measure be prevented.

#### **Gearing, Farm Implements, &c.**

Examine these, and wherever they are broken or defective see that they are repaired.

#### **Fire Wood.**

Provide a full supply of fire wood and cord it up under the wood-shed for winter use.

#### **Fences and Gates.**

Repair such as need it, and provide gates for entrances where bars are now in use.

**NUMBER OF TREES ON AN ACRE.**—30 feet apart each way, 50; 25 feet apart each way, 70; 20 feet apart each way, 110; 18 feet apart each way, 135; 15 feet apart each way, 195; 12 feet apart each way, 300; 10 feet apart each way, 435; 8 feet each way, 680; 6 feet apart each way, 1210; 5 feet apart each way, 1745; 4 feet each way, 2725; 3 feet apart each way, 4840.

## **Garden Work for November.**

There is but little work of importance that can now be done in the garden, but what may be done we proceed to state.

**Cabbages.**—Have these taken up and stored away.

**Lettuce Plants.**—Such as are in frames should have air admitted to them in moderate weather.

**Sea Kale and Rhubarb.**—The seeds of these may yet be sown, but if done at all it should be done very early in the month.

**Turnips, Beets, Carrots, &c.**—All the excellent roots still remaining ungathered, should now be taken up. They should be left for a few hours to dry off, and then carefully stored away in a moderately warm cellar, or in pits to be protected by at least a foot of straw or rough litter, and over this again a foot of soil.

**Cauliflower and Broccoli.**—Break down the leaves of these over the flowers to protect them.

**Cardoons, Endives, Celery.**—Continue to blanch the former and earth up the latter.

**Small Salading.**—It is getting too late to sow small salading, except in a hot bed.

**Spinach.**—Keep the spinach bed free of weeds, and if the plants require thinning out, draw those that crowd the others, leaving the finest to stand about four inches.

**Asparagus Beds.**—If these have not been cleaned off and dressed for the winter, let the work be done at once.

**Gooseberries, Currants, &c.**—Cuttings of these fine small fruits may be set out during this month.

**Raspberries.**—New plantations of raspberries may be made throughout the month, if the weather continues open.

**Trenching Stiff Clay Beds.**—Any stiff clay soil that may be in the garden will be benefited by trenching, and leaving the soil rough throughout the winter to be broken down by the frost. In trenching dig in an abundance of manure.

**STRAIGHTENING CROOKED FRUIT-TREES.**—When the tree gets thrown out of perpendicular it can be righted up by loosening the soil on all sides, and perhaps removing a little, then drawing up the trunk and fastening it to a stout support. If it has leaned for several years, it may be necessary to use an axe on one or two obstinate roots, but these wounds will soon heal over. Every young fruit orchard should be carefully watched, and the trees kept upright.

A celebrated English farmer showing a visitor over the estate, was asked what he manured with. "Brains," he replied. "Ah, mon, but where d'ye get so many brains?" was the response.

## MARYLAND STATE FAIR.

## Second Annual Exhibition.

The Second Annual Exhibition of the Maryland Agricultural and Mechanical Association was inaugurated at the Pimlico Fair Grounds on Tuesday, September 26th, and continued four days. Early on the morning, previous to the opening, a heavy shower of rain commenced falling, and continued until about 9 o'clock, when it partially cleared off and visitors commenced arriving, and by 12 o'clock the grounds began to assume a lively appearance, and numbers of ladies and gentlemen were seen busy in the examination of the varied deposits. On Wednesday the weather was fine and every avenue leading to the grounds was crowded with all sorts of vehicles, from the gay equipage to the humble wagon. It is estimated that there were from 12 to 15,000 visitors on the grounds the second day.—There were a number of distinguished visitors present, among whom were Governor Bowie, Mayor Banks, Hon. Horace Greeley and others. On Thursday but few visitors were in attendance, owing to the weather, and on Friday, the last day, it rained incessantly, preventing visitors from reaching the grounds.

The display of stock was very fine, comprising Alderneys, Short-Horns, Devons, Herefords, &c.—The display of sheep and hogs were limited, and the poultry department but poorly represented.—The exhibition in the Household Department was not of a very attractive character. The display of Agricultural Implements and Machinery was very satisfactory, though confined to Baltimore manufacturers almost exclusively. In the trials of speed on the first day "Bashaw" and "Moses and Aaron" were the winners. On the second day "Flash" and "Cecil" won. On the third and fourth days there were no races, owing to the condition of the track. The oration which was to have been delivered by the Hon. Wm. Pinkney Whyte, owing to weather, was indefinitely postponed.

The following are a List of the Entries and Award of Premiums made by the several committees:

## LIST OF ENTRIES.

## HERD PREMIUMS—SHORT HORNS.

C. E. Coffin, of Prince George's county, enters bull Plantaganet and cows Elvina and Ring. Charles A. Murphy, of Cecil county, enters bull General Grant and four cows.

**Alderneys.**—Wm. Devries, of Baltimore county, enters bull General Beauregard and four cows. J. Stricker Jenkins, of Baltimore county, enters bull calf Fairfax, three cows and one heifer. W. C. Wilson, of Baltimore county, enters bull Viceroy, 18 months old; cows Garlile, 7 years; Lucie, 5 years; Daisy, 5 years, and Leda, 8 years. Robert Moore, of Baltimore county, enters bull Saladin, 6 months old; cows Alice Gray, 10 years; Dutches, 3 years; Fannie, 4 years, and Lilly, 9 years. Charles J. Baker, of Baltimore, enters bull Athol, 4½ years; cows Topsy, 5 years; Daisy, 4 years; heifers Mary, 21 months, and Bet-

tie, 9 months. William W. Walters, of Baltimore, enters bull Hannibal, 28 months old; cows Princess, Welcome, Nolet, Grace and Rose, ranging in age from 2 to 4 years. John Merryman, of Hayfields, enters bull Marion, bull Sir George, three cows and five heifers.

## CATTLE SWEEP STAKES.

John Merryman enters three bulls, eight heifers, three cows and two steers, all Herefords; W. Devries enters one bull, nine cows and ten heifers, all Alderneys; C. E. Coffin, of Prince George's, enters three bulls, four cows and six heifers, all Alderneys; W. C. Wilson, of Baltimore county, two bulls, nine cows and five heifers, all Alderneys.

## IMPORTED CATTLE.

**Alderney Bulls.**—Joseph H. Rieman enters Sir Davey, aged 20 months; John R. Richards, of Baltimore, enters Rolla, aged 18 months, and W. T. Walters, of Baltimore, enters Hannibal, aged 28 months. John Merryman, of Hayfields, enters Hereford bull Sir Richard.

**Alderney Cattle.**—Joseph H. Rieman, of Baltimore county, enters Alderney cows Laura, 21 months old, and Georgetty, 5 years old; W. Devries, of Baltimore county, enters Flirt and Lovely, each 3 years old; J. Stricker Jenkins, of Baltimore, enters Copia, 3 years old, and Fides, 1 year old; W. C. Wilson, of Baltimore county, enters Tulip, 14 years old, Evadna, 1 year old; John R. Richards, of Baltimore, enters Bijou, 2 years old; W. T. Walters enters Princess, Wilcome, Rose, Violet and Grace, ranging in age from 2 to 4 years; John Merryman enters cows Giantess, 25 months old, and Miss Monk, 13 months old.

## AYRSHIRES.

General John S. Berry enters Dairymaid, 9 years old.

## HEREFORDS.

John Merryman enters bull Marion, 6 years old; Septimus, 2 years; bull calf Sir Walter Scott, 4 weeks old; cows Meg Merriles, 4 years old, Promise, 13 months old, and Araminta, 4 years old; heifers April, Florence, Mary, Treasure and Queen of Cora, ranging in age from 1 to 3 years.

## AMERICAN BRED CATTLE.

**Short Horns.**—Bulls three years old and over, C. E. Coffin, of Prince George's county, enters Plantaganet, 4 years old; Charles A. Murphy, of Cecil county, enters General Grant, 3 years old. Bulls between 2 and 3 years old—C. E. Coffin enters Radical, 2 years old. Bulls between 1 and 2 years old—James Atlee, of Baltimore county, enters Napoleon, 14 months old.—Bull calves—C. E. Coffin enters Muirkirk Laddie, 9 months old. Cows three years old and over—C. E. Coffin, enters Elvina, Elvina 3d, and Nellie Ringlet; Chas. A. Murphy enters Snowdie, Starry, Beauty and Belle. Cows between 2 and 3 years old—C. E. Coffin, Elvina 4th. Heifers between 1 and 2 years old—C. E. Coffin, Souise Lassie and Constantina, both 19 months old. Heifer calves—C. E. Coffin, Bonnie Muirkirk, Elvina 6th and Elvina 7th; C. A. Murphy, Cecil, 4 months old.

**Devons.**—Cows 3 years old and over—C. E. Coffin, of Prince George's county, Pet, 6 years old.

**Alderneys.**—Bulls, 3 years old and over—Chas. J. Baker enters Athol, 4½ years old. Bulls between 2 and 3 years old—Wm. Devries enters General Beauregard, 2 years and 7 months. Bulls between 1 and 2 years—Wm. C. Wilson, enters Viceroy, 18 months; A. B. Kemper enters Bill, 18 months. Bull calves—Joseph H. Rieman enters Barlos, 9 months; Wm. Devries enters Prince Arthur, 1 year, L'Empereur, 11 months, George Peabody, 11 months, Eugene, 10 months; J. Stricker Jenkins, enters Fairfax, 2 months; W. C. Wilson enters Trump, 11 months; James Atlee enters Fritz, 3 months; Robert Moore enters Saladin, 6 months. Cows 3 years and over—L. Mongar enters Blossom; Joseph H. Rieman enters Daisy 2d and Isabel; William Devries enters Clara, Stella, Louise and Fanny; J. Stricker Jenkins, Diana 3d and Minnie; William C. Wilson enters Gazelle, Lucie, Daisy, Leda, Rose and Zenobia; Robert Moore enters Dutches 2d and Lilly 6th; James Sutton enters Rose, Blossom, Topsy and Daisy.—Heifers between 2 and 3 years—William Devries enters Ristori; William C. Wilson, Rosaline; James Atlee, Beauty; Robert Moore, Alice Gray 3d. Heifers between 1 and 2 years—L. Mongar enters Rose; Joseph H. Rieman, Maudie and Agnes; Wm. Devries, Hebe, Tulicka and Grace; W. C. Wilson, Fairy and Flora; James Atlee, Dela; Charles J. Baker, Mary. Heifer calves—W. C. Wilson enters Fairy; Robert Moore, Lady Sharpless; Charles J. Baker, Bettie. All the above are from Baltimore county.

**Grades or Natives.**—C. E. Coffin, of Prince George's county, enters Mattie, 5 years; L. Mongar of Baltimore county, Daisy, 4 years; James Coyle, overseer for Mrs.



George Brown, Baltimore county, enters cow 9 years; cows or heifers 2 and 3 years, heifer 2 years, by last named; Fannie, by L. Mongar, cows and heifers between 1 and 2 years, heifer 1 year and 11 months; Jas. Coyle, heifer calves; C. E. Coffin enters Mattie's calf, 5 months.

## FAT CATTLE.

John Merryman enters 1 Hereford steer, 6 years old, and one 4 years old.

## IMPORTED SHEEP.

*Angora Goats.*—A. Eutychides, of Baltimore county, enters four pens, containing 30 Angora goats.

*American Breed Sheep.*—O. A. Murphy, of Cecil county, enters 2 Leicestershire bucks; 6 Leicestershire long-wool ewes; 3 Leicestershire long wool buck lambs, and 3 long-wool Leicestershire ewe lambs.

## MIDDLE WOOLS.

John Merryman enters buck Shropshires; J. Stricker Jenkins, Southdowns, and Thos. Hughlett of Talbot county, yearlings. John Merryman enters Shropshires, and J. Stricker Jenkins, Southdowns. Mr. Jenkins also enters Southdown buck lambs, and Thomas Hughlett, Southdown buck lambs. Mr. Merryman enters Shropshire, and Mr. Jenkins Southdown ewe lambs.

## FINE WOOLS.

Sterling Thomas, of Baltimore, enters two Southdown buck lambs.

## FAT SHEEP.

*Live Mutton.*—John Merryman enters a Shopwether, two years, and another one year; Sterling W. Thomas enters Cotswolds and Southdowns.

## SWINE.

*Large Breeds.*—N. P. Boyer & Co., of Parkesburg, Pa., enters 35 Chesters, ranging in age from six months to two years, and F. Page, of Baltimore county, seven Chesters, from six months to two years.

## BLOODED HORSES.

*Thoroughbred Stallions.*—John A. Deese, of Pikesville, Baltimore county, enters Baltimore; George Brown, of Baltimore county, enters Lord Baltimore. *Thoroughbred Mares.*—J. P. Thom, of Baltimore, enters Young Utilla, 10 years; A. D. Brown, of Baltimore county, enters Garland, 7 years. Horse Colts, 2 years old—J. P. Thom enters Fimlico. Horse Colts, 1 year old—J. P. Thom enters Sphinx and Collector; Alexander D. Brown enters Brookland. Sucking Horse Colt—Alexander D. Brown enters Daybreak, 5 months. Filly, 1 year—Alexander D. Brown enters Colgate; J. P. Thom, Teetotal. Sucking Filly—Joseph H. Rieman enters Belle, 5 months.

*Quick Draft Horses.*—Stallions—L. Mongar enters Guy Livingston; John Greacen of Baltimore county, Burlington, Jr.; Samuel Wilhelm, of Baltimore, Henry Durock, 4 years; T. J. Ferguson, Baltimore county, Forrest, 6 years; John A. Lusk, of Carroll county, Mount Holly, 6 years; Charles T. Cockey, Baltimore county, County John, 5 years; D. B. Trimble, Baltimore county, Napoleon, 6 years; E. Law Rogers, Baltimore, Chesapeake, 8 years.—Brood Mares—John Greacen enters Lady Burlington; John Merryman, Bettie, 19 years, and Fanny, 17 years; David Blaze, Baltimore, Flint and Fannie each 5 years; George S. Brown, Victoria, 6 years, and Martha Washington; Robert Moore, Nellie, 4 years. Horse Colts, 3 years—L. Mongar enters Billy and Guy; B. F. Carroll, of Harford county, Maximilian; Charles T. Cockey, Messenger; Robert Moore, Laura, 3 years; E. B. Frey, Robert Lee, 3 years. Horse Colts, 2 years—L. Mongar enters Shot; B. F. Young, of Anne Arundel county, Katie, 2 years; B. M. Jenkins, Baltimore county, Pilot, 2 years and 4 months.—Horse Colt, 1 year—B. A. Holmes, of Baltimore, enters Pat, 15 months. Filly, 3 years—L. Mongar enters Fannie; Thomas Smith, of Baltimore, Kate; L. Turner, Jr., Balti. more, Stella. Filly, 1 year old—John Merryman enters Loulie, 1 year; D. B. Trimble, of Baltimore, enters Filley, 17 months. Sucking Fillies—John Merryman enters Shoofly and Nannie; J. P. Thom, Moselle. Pairs of horses raised by Exhibitor—John Merryman enters Bettie and Fannie, 9 and 10 years; Pat and Punch, 4 and 5 years; Fannie and Mate, 9 and 7 years; Samuel W. Worthington, of Baltimore county, Billy and Kate, 3 and 6 years.

## HORSES FOR GENERAL UTILITY.

Charles B. Jones, Cecilton, Md., enters stallion John M. Brown, 5 years old; L. Mongar, Baltimore county, enters Joe Lane, 10 years old, and Joe Lane, Jr., 3 years old; T. L. Keene enters John Morgan, 5 years old; George P. West, Baltimore city, enters Mambrino, 8 years old (Hambledonian); Thomas P. Jones, Cecilton, Md., enters Hyl-bruter Davis, 10 years old; G. W. Lurman, Catonsville,

enters Bellfounder, Jr., 9 years old; Prof. N. R. Smith, Baltimore, enters Hannibal, 6 years old; George P. West enters blood mare Kate West, 9 years old; Robert Moore, Baltimore county, enters Gray Messenger, 10 years old, and Kitty, 20 years old; George S. Brown, Baltimore, enters a pair of match coach Horses, each 8 years old; John Merryman enters a pair of coach horses raised by himself; J. B. Berrett, Carroll county, enters saddle horses Belmont, 7 years old; T. L. Keene, Baltimore, enters Mac, 5 years old; Charles Ruph, Baltimore, enters saddle horse Nellie; William Devries enters Bettie; General J. S. Berry enters Bessie; Wm. Brooks, Baltimore county, enters Dan; George Brown, Baltimore county, enters Virginia; Louis McDean, Jr., Baltimore, enters Kittie, not exceeding 13½ hands high, and Master Alexander Brown, Baltimore, enters Prince of Wales.

## HEAVY DRAFT HORSES.

W. T. Walters enters stallions Prince and Sultan, each 15 months old. Alex. D. Brown enters horse colt, 2 years old.

## JACKS, JENNETS AND MULES.

T. Miller, Baltimore county, enters one team of six mules, each animal under 4 years of age.

## IMPORTED CATTLE.

Joseph H. Rieman enters Saida 15 years, and colt 5 months old. Wm. T. Walters enters draft stallions Hercules, 6 years old, and Morock, 7 years old (Percherons); draft mares Kate and Lizzie (Percherons), each 7 years old. John Merryman enters mare Fannie, with her nine colts, ranging in age from 5 months to 10 years.

## POULTRY AND OTHER BIRDS.

James Atlee, of Baltimore county, enters a trio of Jersey blues, a trio of blue chroove, 1 trio of black do; L. Mongar, of Baltimore county, 1 trio dorkings, 2 pairs bronze and 1 pair blue Brunswicks, 1 pair black African geese, 1 pair and a trio of Brazilian ducks; E. Whitman & Sons, Baltimore, 1 pair Bremen geese.

## IMPLEMENTS AND MACHINERY.

The only entries in this department were made by R. Sinclair & Co., E. Whitman & Sons, Thomas Norris & Son, Slade & Co., Doubleday & Odell, Linton & Lamott, W. L. Buckingham, agent for Bickford & Huffman, and Canton Company.

## AWARD OF PREMIUMS.

## HERDS.

Best Short Horn	Herd,	Gold Medal,	C. E. Coffin.
" Devon	Herd	"	Gov. O. Bowie.
" Alderney	"	"	Wm. Devries.
" Hereford	"	"	John Merryman.

## SWEEPSTAKES.

46 Devons, Gold Medal and Diploma, to S. T. C. Brown.

## IMPORTED CATTLE.

Devon	Bull President,	Gold Medal,	S. T. C. Brown.
Alderney	" Sir Davy,	"	J. H. Rieman.
Hereford	" Sir Richard 2d,	"	John Merryman.
Hereford	Cow Giantess,	"	John Merryman.

## SHORT HORN.

Best Bull 3 yrs.	Plantaganet,	\$30,	C. E. Coffin.
2d "	Genl. Grant,	20,	C. A. Murphy.
Best Bull bet. 2 and 3,	Radical,	20,	C. E. Coffin.
Best Bull Calf,	Muirkirk Laddie,	10,	C. E. Coffin.
2d "	Genl. Lee,		C. A. Murphy.
Best Cow 3 yrs.	Starry,	25,	C. A. Murphy.
2d "	" Ringlet,	15,	C. E. Coffin.
3rd "	" Nellie,	10,	C. E. Coffin.
Best Heifer bet. 2 & 3	Elvina 4,	20,	C. E. Coffin.
" bet. 1 & 2	Sousie Lassie	10,	C. E. Coffin.
2d bet. 1 and 2	Constantina,		Bronze Medal,
C. E. Coffin.			
Best Heifer Calf,	Elvina 7th,	10,	C. E. Coffin.

## DEVONS.

Best Bull 3 yrs.	Freedom,	\$30,	S. T. C. Brown.
2d "	" Patterson,	20,	Gov. O. Bowie.
Best Bull bet. 1 and 2,		20,	S. T. C. Brown.
2d "	" 1 and 2, Helenas		Huron, \$15, J. H. McHenry.

Best Bull Calf \$10, S. T. C. Brown.  
 Best Cow 3 years, Pet, 25, C. E. Coffin.  
 2d Cow 3 yrs. Annie Taylor, 15, S. T. C. Brown.  
 3rd " " Sunshine, 10, Oden Bowie.  
 Best Heifer between 2 and 3 yrs. Annie Price, \$20,  
 S. T. C. Brown.  
 2d " " 2 and 3 Bessie Price, 15, S. T. C. Brown.  
 Best " " 1 and 2, Ida Price, 10, S. T. C. Brown.  
 Best Heifer Calf, 10, S. T. C. Brown.

## ALDERNEYS.

Best Bull 3 years Athol, \$30, C. J. Baker.  
 2d " " Bull, 20, Dr. John Mann.  
 Best Bull bet. 2 and 3 years Genl. Beauregard, \$20,  
 Wm. Devries.  
 2d " " 2 and 3, Hampton, 15, J. W. Garrett.  
 Best Bull " 1 and 2, Greyback 20, J. H. McHenry.  
 2d " " 1 and 2, Viceroy, 15, W. C. Wilson.  
 Best Bull Calf Fairfax, 10, J. S. Jenkins.  
 Best Cow 3 years Sweetbriar, 25, W. H. Perot.  
 2d " 3 Stella, 15, Wm. Devries.  
 3rd " 3 Clover, 10, J. H. McHenry.  
 Best Heifer bet. 2 and 3 years, "Heartsease," \$20,  
 W. H. Perot.  
 2d " " 2 and 3, Fairy, 15, J. H. McHenry.  
 Best Heifer " 1 and 2, Jenny, 10, Jesse Tyson.  
 2d " bet. 1 and 2 years, Hebe, Bronze Medal,  
 Wm. Devries.  
 Best Heifer Calf Bettie, 10, C. J. Baker.

## HEREFORDS.

Best Bull 3 years, Marion, \$30, John Merryman.  
 Best " bet. 2 and 3, Septimus, 20, " "  
 Best Bull Calf, 10, " "  
 Best Cow 3 yrs. Meg Merriles, 25, " "  
 2d " 3 " Araminta, 15, " "  
 3rd " 3 " Promise, 10, " "  
 Best Heifer bet. 2 & 3, April, 20, " "  
 2d " " Florence, 15, " "  
 Best Heifer " 1 & 2, Mary, 10, " "  
 2d " " Queen of Cora, Bronze Medal,  
 John Merryman.  
 Best Heifer Calf, Treasure, 10, " "

## ATYRSHIRES.

Best Cow 3 years, Dairymaid, \$25, John S. Berry.

## GRADES OR NATIVES.

Best Cow 3 years Nelly, \$20, J. W. Garrett.  
 2d " 3 " Daisy, 10, L. Mongar.  
 Best Cow or Heifer 2 & 3, Tulip, 10, G. W. Lurman.  
 2d " " 2 and 3 5, Mrs. G. Brown.  
 Best " " 1 and 2 10, Mrs. G. Brown.  
 2d " " 1 & 2 Blossom, 5, G. W. Lurman.  
 Best Calf Matties, 5, C. E. Coffin.

## FAT CATTLE.

Best Beef on Hoof, Hereford Steer, \$20, J. Merryman.  
 2d " " " \$10, John Merryman.

## IMPORTED SHEEP.

Best Long Wool Cotswold Buck, Diploma, J. Humphries.  
 2d " " " Diploma, G. Jackson.  
 Best " " Ewe, " J. Humphries.  
 2d " " " " G. Jackson.

## AMERICAN BRED SHEEP.

## LONG WOOLS.

Best Buck, \$10, Geo. Jackson.  
 2d " 5, Chas. A. Murphy.  
 Best Pen Ewes, 10, Geo. Jackson.  
 2d " 5, Chas. A. Murphy.  
 Best Pen Buck Lambs, 10, " "  
 Best Pen Ewe Lambs, 10, " "

## MIDDLE WOOLS.

Best Buck, \$10, John Merryman.  
 2d " 5, Edward Lloyd.  
 Best Pen Ewes, 10, J. Stricker Jenkins.  
 2d " 5, John Merryman.  
 Best Pen Buck Lambs, 10, Thomas Hughlett.  
 " " Ewe " 10, John Merryman.

## FINE WOOLS.

Best Pen Buck Lambs, \$10, S. W. Thomas.

## FAT SHEEP.

Best Live Mutton, \$10, S. W. Thomas.  
 2d " " 5, John Merryman.

## SWINE.

## LARGE BREED.

Best Boar 2 years, \$10, D. S. Sumwalt.  
 2d " 2 " 5, Jesse Tyson.  
 Best Sow 2 " 10, Wallace King.  
 " " bet. 1 and 2 yrs. 10, G. F. Page.  
 Best Lot of Pigs, 5, G. F. Page.

## SMALL BREED.

Best Boar bet. 1 and 2 yrs. \$10, N. P. Boyer.  
 Best Sow, 2 years old, 10, N. P. Boyer.

## BLOODED HORSES.

Best Thoroughbred Stallion, "Baltimore," Gold Medal and Diploma, J. A. Devese; 2d best do. do. Dickens, Gold Medal, Governor Oden Bowie; best Thoroughbred Mare, Young Utilla, Gold Medal, Dr. J. P. Thom; 2d do. do. Garland, Silver Medal, A. D. Brown; best Horse Colt 3 years, Lord Baltimore, Gold Medal, Geo. Brown; best do. do. 2 years old, Pimlico, Silver Medal and Diploma, Dr. J. P. Thom; best do. do. 1 year, Sphynx, \$20, Dr. J. P. Thom; 2d do. do. 1 year, Sphynx, \$15, A. D. Brown; best Sucking Horse Colt, Daybreak, \$10, Alexander D. Brown; best Filly 1 year, Colegate, \$10, A. D. Brown; 2d do. do. Teetotal, \$5, Dr. J. P. Thom; best Sucking Filly Belle, \$8, J. H. Rieman.

## HORSES FOR GENERAL UTILITY.

Best Stallion, Bashaw, Gold Medal and Diploma, A. F. Fawcett; 2d do. do. St. Lawrence, Gold Medal, H. Haines; best Brood Mare, Victoria, Gold Medal, Geo. S. Brown; 2d do. do. Crinoline, Silver Medal, E. C. Uley; best Horse Colt 3 years, Maximilian, Gold Medal, B. F. Carroll; best do. do. 2 years, Pilot, Silver Medal and Diploma, B. W. Jenkins; best do. do. 1 year, Dandy, \$20, C. Trump; 2d do. do. 1 year, Pat, \$15, R. A. Holmes; best Filly 3 years, Stella, \$20, L. Turner, Jr.; best do. 1 year, Loulie, \$10, John Merryman; best Sucking Filly, "Shoo Fly," \$8, John Merryman; best Pair of Horses, Sylph and Silvie, Gold Medal, Oden Bowie; best Stallion Mambrino Hambletonian, \$50, Geo. P. West; 2d do. Norris Richards, \$20, L. P. Ellison; best Brood Mare, Kate West, \$30, Geo. P. West; 2d do. do. Black Maria, \$15, A. Rutledge; best Pair Coach Horses, 1 pair Bay Horses, \$50, Geo. S. Brown; 2d do. do. Gipsy and Lady, \$20, R. T. Bowne.

## GENTLEMENS SADDLE HORSE—MARE OR GELDING.

Best Gentlemens Saddle Horse, Mare or Gelding, Henry, \$30, Edward Lloyd; 2d do. do. Gernanium, \$20, Lloyd Lownds; best Lady's Saddle Horse, Mare or Gelding, Virginia, \$30, George Brown; 2d do. do. Bettie, \$20, Wm. Devries.

## HEAVY DRAFT HORSES.

Best Mare, Nelly, \$30, Wm. Gill; best Horse Colt, Prince, \$10, Wm. T. Walters.



## IMPORTED HORSES.

Best Thoroughbred Mare, Saïda, Gold Medal, Jos. H. Rieman; 2d do. do. Silver Medal, J. W. Garrett; best Heavy Draft Stallion, Hercules, Gold Medal and Diploma, Wm. T. Walters; 2d do. do. do. Morock, Gold Medal, Wm. T. Walters; best Heavy Draft Mare, Kate, Gold Medal, Wm. T. Walters; 2d do. do. do. Lizzie, Silver Medal, Wm. T. Walters.

## SWEEPSTAKES FOR STALLIONS.

Best Stallion, Joe Lane, Gold Medal and Diploma, L. Mongar.

## SWEEPSTAKES FOR MARES.

Best Mare, Fanny, Silver Medal and Diploma, John Merryman.

## JACKS, JENNETS AND MULES.

Best Imported Jack Sir John. \$50, Joshua Horner; best Team of Mules, \$40, Z. Miller.

## GRAIN AND ROOT CROPS.

Best White Corn, \$3, Geo. Wenzel; best Yellow Corn, \$3, W. S. G. Baker; best 5 Acres Corn, \$15, W. S. G. Baker; best 5 Acres Wheat, \$10, T. W. Levering & Son; best 5 Acres Oats, \$10, J. H. Rieman; best 5 Acres other Hay, \$10, W. S. G. Baker; best 3 Acres Irish Potatoes, \$10, W. S. G. Baker; best ½ Acre Mangel Wurtzel, 3, J. Parson.

## IMPLEMENTS AND MACHINES.

## DIVISION NO. 1.

Best One Horse Plough \$3, R. Sinclair & Co.; best Two Horse Plough \$4, Thomas Norris & Son; best Three Horse Plough \$5, Salde & Co.; best Plough for Rough Land \$3, R. Sinclair & Co.; best Subsoil Plough \$5, E. Whitman & Sons; best Hill-side Plough \$3, Doubleday & Son; best Gang Plough \$3, best Sulky Plough \$5, best Hand Plough \$1, best Potato Plough \$2, best Harrow \$5, best Corn Cultivator \$3, best Tobacco Cultivator \$3, best Horse Hoe \$2, R. Sinclair & Co.; best Vegetable Cultivator \$1, Marshall & Hord; best Clod Crusher \$5, best Field Roller \$5, R. Sinclair & Co.; best Grain Drill \$5, Wagoner & Mathews; best Grain Guano Attachment \$10, James Bruster; best Broadcast Sower, hand \$3, Spear Bros.; best Garden Seed Sower \$2, E. Whitman & Sons; best Lime and Fertilizer Broadcast Spreader \$5, best Corn Planter, horse \$3, best Corn Planter, hand \$2, R. Sinclair & Co.

## DIVISION NO. 2.

Best Threshing Machine with Separator 6 to 10 horse, \$15, Linton & Lamott; best Thresher with Separator, 2 to 6 horse power, Linton & Lamott; best Threshing Machine without Separator \$5; best Threshing Machine Straw Carrier Attachment \$3, E. Whitman & Sons; best Sweep Horse Power 6 to 10 horse \$10, Linton & Lamott; best Two Horse Railway Power \$5, N. H. Slade; best Mowing Machine 2 horse \$10, Thomas Norris & Son; best Mowing Machine for Lawns \$5, Doubleday & Odell; best Combined Reaper and Mower \$10, A. G. Mott; best Single Reaper Johnston's Self-Raker \$5, Linton & Lamott; best Combined Reaper and Mower with Self-Raking Attachment \$15, L. H. Lee & Bro.; best Hay Tedder \$5, Doubleday & Odell; best Sulky Horse Rake \$5, Thomas Norris & Son.

## DIVISION NO. 3.

Best Grain Fan to Separate Cockle, Garlick, &c., \$5, best Grain Fan \$3, J. Montgomery; best Revolving Screen \$3, best Corn Sheller for horse power

\$5, R. Sinclair & Co.; best Double Spout Corn Sheller \$4, Slade & Co.; best Single Spout Corn Sheller \$3, Doubleday & Odell; best Hay, Straw & Stalk Cutter for horse power \$8, R. Sinclair & Co.; best for hand or horse power \$5, 2d best for hand or horse \$3, Slade & Co.; best Hay and Straw Cutter, hand power, \$5, best Horse Hay Fork \$5, best Grain Cradles \$3, R. Sinclair & Co.; best American Grain and Grass Scythes \$3, best Hand Hay Rakes \$3, best Hand Garden Rakes \$2, best Pitch Forks \$2, best Forks for Digging \$2, best Long Handled Shovels \$2, best Briar or Bramble Scythes \$1, E. Whitman & Sons.

## DIVISION NO. 4.

Best Hay Press for hand power \$8, Spear & Bros.; best Large Cider and Wine Press \$8, Thos. Norris & Son; best Small Cider and Wine Press \$5, best Smut Machine \$3, E. Whitman & Sons; best Churn \$3, Doubleday & Odell; best Ox Yokes and Bows \$2, E. Whitman & Sons; best Self-Opening and Shutting Gate \$10, Saml. Whitaker; best Farm Gate \$3, G. H. Churftman; best Road Scraper \$2, Thomas Norris & Son.

## DIVISION NO. 5.

Best Portable Steam Engine \$25, George Page & Co.; best Sorgho Mill, large crops, \$10, E. Whitman & Sons; best Machine for Drilling Stone \$8, Genl. Tompkins; best Washing Machine, diploma, Brown & Cathcart; best Refrigerator, diploma, J. T. Roberts; best Sewing Machine, diploma, T. S. Huntington; best Sewing Machine, diploma, Singer Manufacturing Co.; best Portable Steam Engine \$10, Linton & Lamott.

## HARNESS AND LEATHER MANUFACTURES.

Best Double Farm Wagon Harness \$5, J. D. Hammond; best Carriage Harness \$5, J. D. Hammond; 2d best \$3, F. L. Farquharson; best Buggy Harness \$3, Samuel Hunt; best Man's Saddle and Bridle \$5, J. D. Hammond; best Traveling Trunk \$3, Samuel Hunt.

## ELECTION OF OFFICERS.

The following gentlemen were elected officers for the ensuing year: *President*, Wm. Devries. *Vice Presidents*—St. Mary's county, Col. C. Billingsley; Anne Arundel, Dr. E. J. Hinkle; Montgomery, A. Bowie Davis; Baltimore county, Alex. T. Brown; Queen Anne's, Hon. Jas. T. Earle; Prince George, Chas. B. Calvert; Harford, Col. R. McHenry; Cecil, Wm. M. Knight; Charles, John W. Jenkins; Kent, D. C. Blackiston; Worcester, W. J. Aydolette; Howard, John Lee Carroll; Baltimore city, Washington Booth, Henry M. Warfield; Talbot, Colonel Edward Lloyd; Washington, William Dodge; Allegany, Dr. S. P. Smith; Somerset, Dr. George R. Dennis; Frederick, Col. George R. Dennis; Carroll, S. T. C. Brown; Dorchester, Col. James Wallace; Calvert, T. B. H. Turner; Caroline, Daniel Field; Wicomico, Purnell Toadvine; District of Columbia, W. W. Corcoran. *General Secretary and Treasurer*—David E. Trimble. *Corresponding Secretary*—E. Law Rogers. *Executive Committee*—Messrs. J. H. Rieman, Ezra Whitman, J. H. McHenry, R. F. Maynard, Gen. G. S. Brown, Dr. De Coursey, L. McLane, C. K. Thomas and S. T. C. Brown.

The peanut crop of Virginia this year is estimated 400,000 bushels, while Tennessee raises 300,000 bushels, and Georgia and the Carolinas from 150,000 to 175,000.

## AGRICULTURAL CHEMISTRY.--III.

## VEGETABLE PHYSIOLOGY.

Physiology is a term at present used for the science of all the different parts or organs of plants or animals, and the offices which they perform in the economy of the individual. Its application to vegetable life is the one to which we propose to call attention. When we look at the structure of a plant or tree we naturally view it in three separate anatomical divisions, the roots, the leaves, and the stem or trunk.

The first offices of the roots, which ramify in every direction beneath the soil, is to afford support to that portion of the plant above the surface. In the case of trees they are mostly fibrous, while in that of many plants and vegetables they are spindling or top-rooted, as in the turnip, beet, radish, and the like; when they afford in addition a desirable article of food. When the roots leave the lower part of the trunk of a tree they differ little in structure from the stem itself, but gradually change in character as they divide and diverge in order to multiply their extremities, and thus increase the number of spongioles or feeding mouths through which is taken up the nourishment necessary to the continuance of vegetable life, increase of structure, and the production of fruits and flowers. The roots of trees and plants possess the power of absorbing water in large quantities from the soil, which quantity depends upon the soil, climate, extent of foliage and the kind of tree itself. Some interesting experiments have been made in the case of the pear tree, in which it was proved that this particular kind of fruit tree has the power of absorbing water to an extent quite surprising. It has further been proved by experiment, that the roots of plants absorb gases from the water surrounding them in the soil, and have the further property of selecting oxygen when present in it, in order that carbonic acid and nitrogen may also be appropriated without injury. It being a known fact that, in the dark, the leaves of plants absorb oxygen from the atmosphere, it is expected that the roots, from their analogous structure, should perform analogous functions in the darkness of the soil. Arguing from this we can readily understand the views of those who have advanced the idea that the fertility of the soil is increased by the shading it receives from a dense vegetable growth above it. As to the means by which solid substances find their way into the vegetable structure, whether in solution, or in minute subdivision, physiologists entertain different views, which, for want of space, it will be impossible for us here to discuss. We can, however, reasonably permit ourselves to believe that the roots have the power of

selecting from the soil, in preference, those substances which more properly belong to the nature of the plant, also the power to substitute others, to a certain extent, which may be wanting. This may be also inferred from the circumstance of sometimes finding silicate of soda in the stems of a potash plant. The roots have also the power, to a certain extent, of rejecting and avoiding whatever may be injurious to the plant or tree; but when such substances are presented in solution, the spongioles, whose mouths are every ready to take in anything in the shape of moisture, may then do so to the serious injury of the plant, and even death may ensue; whereas such substances in the soil in a solid state would be unproductive of any harm.

The excretory power of plants and the effects of the excretions on the soil, are also questions on which opinions are divided. By the excretory power, it is claimed by some, that all plants have the property of rejecting through the roots such matters as have become exhausted, after building up the vegetable structure, thus instituting an analogy between the vegetable and animal economy. Such rejected matter, it is claimed, is prejudicial to plants of the same family as those rejecting it, but harmless, if not beneficial, to others, of a different family, and on this supposition is based one theory of rotation of crops. Now a more natural theory for the necessity of rotation is evident from the fact that certain plants require certain elements for their profitable growth, which becoming exhausted, the soil is unable to meet the demands of that class of plants until sufficient time has been allowed to produce a further supply by the disintegration of the particles of the soil, (supposing the elements to exist there,) or by the fresh application of manures containing them.

The next anatomical division of the plant we will consider is the stem or trunk, in which are united the nature of the leaves and roots. The twigs and branches are extensions of the trunk, and the leaves may be looked upon as an extension of the twigs and branches.

In botany, the stem is defined as the upward prolongation of the axis of a plant, and is made up of the heart-wood and alburnum or sap-wood, and we may suppose that, probably, its functions are as various as those performed by the roots and leaves, the most direct one being that of affording the means of ascent to the sap, through the alburnum, from the roots to the leaves and branches. The outer covering of the stem, or the bark, we find composed of three distinct layers, of which the outer is called the *epidermis*, the next, the *parenchyma*, and the innermost, or that in contact with the wood, the *cortical layer* or *liber*. The epidermis is a thin, tough membrane, in some trees it cracks or



dries up and a fresh one is formed, pushing out the old one, giving the trees that rough surface commonly seen as they grow old. The parenchyma is tender, succulent, and of a dark color. The cortical layer consists of thin membranes encircling each other, and known by whiteness, flexibility and toughness. Two samples of wood which we have before us, the black birch and the paper mulberry, afford excellent specimens of the character of the liber and epidermis.

That the sap, as it descends through the alburnum to the leaves undergoes different changes, is certain; but from the difficulty of making experiments at different heights the matter cannot be reduced to the exactness that might be desired. It may reasonably be concluded, however, that it is gradually prepared for that condition which increased vegetable growth would necessarily require.

In the third anatomical division of the plant or tree we place the leaves, which have been before spoken of as being an extension of the twigs and branches, the fibers of the leaf being connected with the stem, and the other portion of the leaf with the bark. The ascending sap is diffused over the upper surface of the leaf, where important chemical changes take place, and the elaborated juices are returned through the under surface, descending between the new wood and the bark, organizing a fresh supply of wood for the next year. In addition to the chemical changes above alluded to, the surface of the leaves afford the means of evaporating the surplus water of the sap, which process goes on with the greatest rapidity in the warm, dry atmosphere of the summer season. Among other purposes served by this evaporation from the leaves, there is one particularly worthy of consideration. The fluid being constantly abstracted by this means from the vessels which transmit it, a fresh supply of moisture from the soil is required to restore it, this moisture contains the organic and inorganic substances of the soil in a state of solution, which are rapidly taken in by the roots and drawn up to fill the vacuum. In this process the elements required for vegetable structure are appropriated and increased growth produced. In proportion to the activity with which the leaves lose their aqueous vapor will be the quantity of those substances which enter from the soil into the general circulation of the plant. This readily accounts for the rapid growth of vegetation in the summer months in which there are reasonable rains, and hence the great advantage of having a proper supply of fertilizing materials in the soil, from which the substances necessary for increased growth can be produced. On the other hand, when the evaporation from the leaves is too great for the supply of moisture afforded by the roots, as in time of drought, vegetation languishes and dies if not resuscitated by the refreshing influence of timely showers.

(TO BE CONTINUED.)

*From Journal of Applied Chemistry.*

### SUCCESSFUL DRAINING.

Some time ago, in passing through a lower portion of Montgomery county, I encountered a farmer whose long experience in farming and draining interested me much. He said, speaking of draining, that it was only within a few years that he had been induced to try it, and the little he had done had wonderfully improved his land, some that was worthless before had turned out excellent crops and paid the whole expense in a single year. He was now engaged in laying more drain and should continue to do so whenever he thought his land required it. His plan for opening the trenches was as follows: Two furrows were first plowed along the line of the fence, and then after these were thrown out, two more were plowed by lengthening the chain. When those were well shoveled out, the trench was usually sixteen inches deep. He then removed the front wheels of a wagon and attached them to a strong axle-tree about ten feet long, and after drawing this astride the ditch he fastened a yoke of oxen at each end of the axle, close to the wheel, and then fastened the plow chain to the middle of the axle-tree. By lengthening this chain he could deepen the trench to three feet by three more furrows, making five in all. In nearly all the drains he made use of flat stones so laid as to leave an opening about eight inches square for the passage of water. After the stones were carefully placed, he usually threw in two or three inches of small stones from the fields and then threw two or three furrows into the ditch with the plow and long axle-tree, and afterward finished the job with a shovel. During the last seven years he had drained about five acres in this way, at what he thought a very small cost. He had used tile, but inasmuch as stones of a proper kind were plentiful on his farm, he used them in preference to the tile, on the score of economy. He usually made his trenches twenty inches wide at the top, and tapered down to one foot at the depth of three feet. As his land had fall enough and to spare, he was not very particular about obtaining an exact level, his only desire being that the water should run through the proper channel. So far all the work was done by his farm hands under his superintendence and was done at odd times, and consequently cost comparatively little.

My own experience in draining is, that where judiciously applied and well done, it will pay for itself in at least two years and place the land in permanently good condition with the rest and best of the farm.—*Cor. Germantown Telegraph.*

Good farmers, practise economy by giving their stock good shelter during the winter; also good food, taking all that is unsound, half rotten or mouldy out.

# ADDRESS OF HON. HORACE CAPRON, COM- MISSIONER OF AGRICULTURE.

We publish below the Address of Hon. HORACE CAPRON a former resident of Prince George's county, Md., and now U. S. Commissioner of Agriculture, before the Montgomery County Agricultural Society, at its late Fair. He was called upon to give his recollections of the condition of agriculture in this section some twenty-five years ago, and of his exertions in reclaiming the worn-out and impoverished soil. His remarks were welcomed with great cordiality:

MR. PRESIDENT, FRIENDS, AND FELLOW-WORKERS IN THE ANCIENT ART OF AGRICULTURE: It is with no ordinary pleasure that I revisit a place which has become remarkable in the rural annals of Maryland for triumphs of progressive agriculture, for the results of the "high pressure farming" decried by the Rip Van Winkles of twenty years ago; I see in the conspicuous signs of thrift, of high fertility, of heavy production, where once barrenness and desolation ruled the scene, "confirmations strong as proofs from Holy Writ," ocular and conclusive demonstrations that you and I were right, and the "low pressure" delvers in the old fields were wrong.

Thirty years ago, these smiling fields, now green and luxuriant at the close of a summer of unusual severity, were dry and bare, the soil hard and intractable, its appearance indicative of that decay and decrepitude in which "the grasshopper shall be a burden." Few, at this day, can accurately estimate the poverty of the land. A few representatives of those days, noble standard-bearers of the advance guard of improvement, whom I now see before me, will bear willing testimony to its worthlessness for agricultural purposes. A simple anecdote of that period may serve to illustrate its character. A well-known gentleman, from the fine corn lands of Prince George's, commanding a troop of cavalry, passed with his company through a corn-field on one of these old farms, (the country roads of that period being only wagon tracks through the fields,) and observing one of his troopers bending over upon his horse and cutting right and left with his saber, he demanded the cause of so strange and unsoldierlike a breach of discipline. "I am trying to reach the top of this corn," replied the investigating cavalrman. He might now ride through the same fields and find it equally difficult to reach up to the top of the corn.

I feel a personal interest in those "old fields," and the story of their improvement. My first essay in their attempted renovation was in 1836, when I plowed fifty acres and sowed oats and clover, hoping, through the agency of plaster of Paris, to secure a setting of clover. The spring was favorable, the oats sprouted, as did the clover, a good sprinkling of plaster was applied, but not one sprig of clover ever grew, and the oats were harvested on the "grab system," then so common. For the benefit of young farmers, who are presumed not to understand this mode, I will explain. The cradler makes a sweep with his cradle, and as it rises out of the grain he "grabs" it with the left hand and lays it down carefully in a bunch to enable the binder following after to find it. In less than ten years these lands yielded 36 bushels of wheat per acre, 100 bushels of corn, and two and a-half tons

of hay, and the crops had paid the expense of improvement, while the value, estimated at \$10 per acre, had advanced to \$60, and stands to-day at double that sum, after large and profitable crops have been taken for so many years, at small expense for fertilizers.

Another tract, a swamp of sixty acres, which I succeeded in draining and improving, soon bore a heavy crop of timothy, and was permanently reclaimed, becoming from an unsightly and unhealthy morass a beautiful and productive meadow.

Amid doubting and criticism these improvements progressed, not at an enormous expense in the nature of a permanent investment, but paying their way in returns almost immediate, and at the same time permanently advancing the value of the property in a degree beyond the gross expense of the work. I thank God that I have lived to see the renovation inaugurated in those days so general and so successful—especially in this neighborhood, and I feel a proud satisfaction in having borne an humble part in this work of causing two blades of grass to grow where but one grew before.

Memory recurs with pleasure to my first visit to this neighborhood in 1847—a visit made at the invitation of a few of the pioneers in its improvement, who desired me to witness the effect of this system for the restoration of "worn-out lands," then in its infancy, now the established means of fertility and wealth. It is a system of liberal feeding in opposition to the plan of leaving the soil to improve itself. None of these men believed that an application of manure would "fire" the crop, as many did at that day, or that starvation could be cured by leaving the patient to the *vis medicatrix nature*.

The first remedial agents were lime, plaster, ashes, poudrette, bone dust, and guano, followed by the employment of all the restorative resources of an enriched soil, teeming with production, furnishing abundant and nutritious aliment for herds of thriving cattle, from which in turn increased supplies of fertilizers are obtained; and, at the same time, the grasses and clover, hitherto unknown in the vocabulary of the growers of tobacco and corn, were permitted to shade the soil from burning suns, to ramify it with their searching roots, aerate it, and fit it for seizing upon and storing for use plant food from the air above and the earth beneath.

With such means these men continued their experiments in renovation, hauling six-horse loads of fertilizers ten miles over rough roads from the line of the Baltimore and Washington railroad. They had tried turning under green crops without fertilizers, but failed because the land was too poor to produce the needed material for green manuring. Innumerable are the experiments recorded in the journals of these gentlemen, some of which I have been kindly shown, which (did the limits prescribed myself in this address permit) could be quoted to sustain this invidiously styled *high-pressure* system for the restoration of these impoverished soils. In no case did I hear of failure where the land has been properly relieved of its superabundant moisture, thoroughly aerated, and liberally manured.

These efforts in Montgomery, P. George's, and other counties, reports of which attracted so much attention in the public prints of that period, gave the first impulse that has wrought the magical change from "barren old fields" to the beautiful landscape which now surrounds you—a land groaning under the burden of agricultural wealth, the



fairest portion of our State, and worthy to rank as an honor to the highest fertility and best culture in the Union.

Parallel with this enrichment of the soil ran the course of improvement in farm stock. Well do I remember the first exhibition of my own stock at the Montgomery County Agricultural Society cattle show in 1848, when the President's seat was so ably filled by that noble-spirited and cultivated gentleman, Allen Bowie Davis. Here were the ponderous Durhams, the symmetrical Devons, with finest of horses and mules, exhibited by Messrs. Brooke, Blagden, Brown, Clarke, Price, Gaither, and others; and an impetus was given to stock breeding which has left an indelible impress upon the farm animals of Maryland, added to the general wealth and welfare, and materially aided in the work of renovating the worn-out lands of the State.

Since that period, and as a direct result of its impelling spirit of progress, roads have been improved, new avenues of trade and traffic have been opened, shortening the distance to market and facilitating the transportation of products and the return of fertilizers, and trade generally enlarged by the increased ability of the farmer to purchase.

While you have added depth to your available soil, have greatly increased its productive capacity, ameliorating your heavy clays, draining your low lands, and making your agriculture more systematic, reliable, and profitable, I press upon your attention the fact that the ultimate aims of progress have not yet been reached. While your experience has settled the question of a profitable renovation of waste lands, and furnished an example which should be followed throughout the South until the one hundred million acres of old fields shall bloom in beauty and bear a prolific burden for the sustenance of animal life, you should still remember that there are new fields on which to surmount new difficulties and win new triumphs. Your lands do not yet yield an average of thirty bushels of wheat, nor are your soils always sufficiently comminuted or perfectly drained. You may not have tried the experiment of applying one hundred dollars worth of manure to the acre, as have the tobacco growers and onion raisers of the Connecticut valley and Rhode Island, to their very great profit; your rotations may not always be arranged with sufficient exactness to the peculiar capacity and condition of the several sections of your farms; and you have yet to introduce steam as a cheap and an efficient agent in the process of tillage, and in the various mechanical operations of the farm. These works of progress must be manfully encountered, and I predict that new lessons in rural economy and agricultural thrift will be taught by the farmers of this country.

Your example is of inestimable value to the Southern States, alive as they are to-day with agricultural activity, mental and muscular, and earnest in efforts to adapt its husbandry to the new circumstances which imperatively demand change in modes and processes, in variety of crops and increase of industries, and especially in adopting labor-saving expedients and machines and acquiring the mastery of the science of farm improvements and renovation. No longer should the planter be migratory, wasting field after field, and seeking new soils to devastate. Recuperation must take the place of destruction, and convenient farm buildings, roads, and other improvements will follow and serve to foster local attachments and love of home,

and to increase the general wealth and advance refinement and promote the highest type of civilization.

Using their advantage of climate and soil, and following your example of diversifying agricultural industry, the South may yet produce the value of a hundred millions of dollars now annually imported, and increase the industries of the country, the estimated value of which it would now be impossible to compute.

Our new nation is now entering upon a new era, with increase of area, giving the widest variety of soil and climate, accompanied with immigration from every quarter of the globe. It is daily becoming more a necessity of our condition that new industries should be inaugurated, and products grown, new processes of utilization attempted, and attention thus directed from those great industries pursued as specialties, as cotton or wheat, or whatever promises to reduce the profit of labor by over-production, and which are always foes to scientific agriculture and real improvement. We are paying tens of millions of dollars annually for fibers, oil, fruits, and other aliments, medicines, and dyes, which can readily be produced here, thus keeping our treasure at home, and giving rural labor a variety of range, which will serve better than trades unions or any expedients of combination to keep up the price of labor and improve the condition of the laborer—not alone the laborer upon the farm, but the workers in all the arts of mechanism and fabrication.

It is my earnest desire and deliberate purpose, in my official capacity, and through the Department of the Government over which I have been called to preside, to co-operate with you and with the friends of rural progress everywhere, in all efforts tending to the advancement of a scientific, systematic, rational, and practical system of American agriculture, suited to our peculiar wants and circumstances, and not a servile copy of any foreign system, however advanced in its philosophy or valuable its results.

The Department of Agriculture is establishing relations with all organized representatives of Agriculture, whether Governmental or otherwise, making exchanges of seeds, plants, and publication; it is searching through the world for new plants to acclimatize, new varieties of cereals to test, and, when proved valuable to distribute. It is stated on competent local authority that hundreds of thousands of bushel of oats are now grown in a single Western State from seed distributed a few years ago, greatly excelling the common seed in productiveness and in quality; similar facts, showing an increase of millions of dollars in the production of the country through the direct agency of the department are filed in its archives. The department embraces in its work the collection and dissemination of statistics and practical information; chemical analysis of whatever will throw new light upon the mooted questions of progressive agriculture; experimental horticulture, with illustrations of landscape gardening and rural adornment; entomology, with its myriad forms of life either favorable or inimical to vegetation; botany, with a continental field but partially worked and promising rich reward. These and other objects of effort are ever before us, and I believe our working crops are not entirely devoid of appreciation of the importance of efficient service, and are making some good degree of progress in the great work.

In conclusion, allow me to express the pleasure I feel in greeting again my old friends; in witnessing the evidence of your skill and industry, your taste and judgment, your comfortable houses and your improving farms. You have made a desert to bloom as a rose; you have caused much grass to grow where literally none grew before, and are therefore doubly and peculiarly benefactors. Continue to advance; take no step backward, and turn not your backs—you nor your children—on so honorable a pursuit, so healthy and so conducive to virtue and true comfort, as that by which you have already wrought results so beneficial and so substantial.—*Montgomery Sentinel*.

#### PREMIUM ESSAY ON THE CULTURE OF BRIGHT TOBACCO.

The following essay by Dr. Thomas P. Atkinson, which received the premium offered by the Granville (Va.) Agricultural Society, we copy from the *Southern Planter*:

"The first thing to be looked to in growing tobacco, is to provide plants enough to 'pitch the crop' in good time, before the summer's sun shall have so completely evaporated the moisture from the ground as to require frequent showers to insure 'a good stand.' Inattention to this all-important requisite often causes a failure of the crop, and leads the planter to complain of Providence, when, in fact, *he only* is to be blamed.

"But the question arises, 'How shall we insure plants in good time?' The best plan, in my judgment, is to look rather to the texture than to the fertility of the soil. A spot in the woods where the land is of a soapy appearance, neither too stiff nor too light, but with a due admixture of sand, and near the base of a declivity looking towards the south or southeast, is to be preferred. Make your cow-pen on the ground thus selected, and keep your cattle upon it until it shall be made very rich. When you remove the cattle from one of these places, cut down the bushes and trees from it, cover the ground thickly with the brush to protect it from the sun, split the wood and throw the limbs on the brush, stack the wood near the place, so as to allow it to dry. As soon as you shall have finished housing your corn in November, set fire to the brush and limbs; and, having previously prepared wood for burning the ground, perform that operation in the usual way. As soon as the ground shall have been sufficiently burned, rake off the coals and coulters it very deep both ways with a sharp, narrow coulters; then rake it carefully, taking care to get out all the loose roots; spread over it a moderate quantity of guano, lay it off in beds four feet wide, trench the ground properly around the patch, so as to prevent the outside water from passing through it, and fence it in. Having thus prepared it as nicely as if you intended to sow it then, leave it

until the first snow in December, when you should scatter your seed regularly over the whole surface, in the proportion of two tablespoonfuls to one hundred square yards. As soon as the land shall be dry enough, after the melting of the snow, tread it firmly, and cover it thickly with the fine dust from a coal kiln, over which a thick coat of fine straight brush should be thrown.

"The coal dust, being black, is an absorbent of heat, and thus keeps the ground warmer than it would otherwise be, and so pushes the plant forward. If there be no snow in December, the seed should be sown about the first of January, and the ground well trodden when dry and otherwise treated as above recommended. He who will try the coulters process, will be astonished at the great number of roots which will be extracted, and which, if left in the ground, serve only to keep it open, and thus to expose the delicate plants to be destroyed by the frost. He will also be gratified to find that the deep and close breaking of the land will keep the ground moist in dry weather, which will destroy the plants in beds treated in the usual way and scratched with a grubbing-hoe or mattock. About the first of March the beds should be resown with about half the quantity of seed used in the first sowing—'the broad leaf Oronoko' is preferred by most of our good planters in this neighborhood, which is famed for producing the finest tobacco in the world. The freezing process through which the land must necessarily pass in winter, and by which the plants are often thrown on or near the surface and destroyed, will be much less injurious under the management here recommended than any other. Whenever the ground is thus affected by the freezing, the beds should be uncovered and kept down, by passing over them, as often as may be required, a heavy roller made of gum or other heavy wood. After each rolling, they should be again covered with coal dust before the brush is returned to them. Plant beds treated in this way may be safely relied on to furnish a supply of good plants."

TABLE OF MEASURES.—The following table will be found valuable to many of our readers:

A box 24 inches by 16 inches square, and 28 inches deep, will contain a barrel.

A box 26 inches by 15½ inches square, and 8 inches deep, will contain a bushel.

A box 12 inches by 11½ inches square, and 9 inches deep, will contain a half-bushel.

A box 3 inches by 8 inches square, and 8 inches deep, will contain a peck.

A box 8 inches by 8 inches square, and 4½ inches deep will contain one gallon.

A box 7 inches by 8 inches square, and 4½ inches deep will contain a half-gallon.

A box 4 inches by 4 inches square, and 4½ inches deep, will contain a pint.



## AMERICAN SUMAC.

BY PROF. H. E. COLTON.

Since the war, and in the reversal of fortune consequent thereto, many of the people of the South have turned their attention to other sources of revenue than the former staples of tobacco, corn, and cotton, and this necessity has developed new and heretofore neglected sources of revenue. For instance it is said that one county alone of the State of North Carolina shipped North last winter about \$100,000 worth of quails (called partridges there), not to speak of the new industry of "truck farming," in which men are now making fortunes, who a few years ago would have thought it almost a disgrace to sell so apparently insignificant a thing as a straw-berly.

Among these new industries, and rising rapidly into importance, are the gathering and manufacturing for market of sumac. This article is used as a dye stuff and for tanning morocco. Formerly all used was brought from Europe; now the Southern States supply a large quantity, already supplanting the low grades of the foreign article, and we hope some day ere long also to take the place of the finer grade.

The difference between

## AMERICAN AND FOREIGN,

or, rather, American and Sicilian first grades, is probably due to the fact that the latter is cultivated; the former is as yet a wild product growing on those vast fields of so-called worn out land abundant through the South from their former wasteful system of farming. However, one of the largest dye manufacturers informs me that the tannin in the Southern sumac seems to be in a different form from the Sicilian, and hence the latter is still preferred by dyers, especially for fine work. Still this may be due merely from cultivation, as we all know the changes that have been made from time immemorial in various grains, grasses, and fruits, by culture and care.

Tanners of morocco say that the Southern Sumac, when carefully gathered, free from sticks and dirt, the leaves and leaf stem only, is equal in tannin strength to the best Sicilian; that with Sicilian at \$175 per ton such sumac finely ground should bring \$125 per ton. The usual price is \$50 to \$90, and it is sold at \$110. It is like everything else; it pays to put it on the market in the best order possible.

## GATHERING AND PREPARING.

In treating of the operation of gathering and preparing for market we shall first state something of the different varieties of sumac. There are six botanically different varieties of sumac in the United States; of these, three are of value, one is of little

or no use, and two are poisonous. The first three resemble each other very much in leaf and size, growing from four to ten and fifteen feet high, chiefly on dry uplands, in old fields. Of these three, two have hairy berries and one has a hairy down on the branch, like a deer's horn in summer, the third has a perfectly smooth berry and branch. The leaves of all these are valuable, though we think if care were taken to keep them separate that the hairy or stag-horn sumac would be found most valuable for dyeing.

Of the other three the dwarf sumac, one or two feet high, is valueless; another grows only in swampy places, and while its juice is said to make a fine varnish, used largely in Japan, yet it is so poisonous to many persons that it is best let alone; the third is the well known poison oak.

In gathering the sumac, leaves and leaf stems should be carefully picked without any of the woody stem, then dried under cover on lattice-work shelves to give free access to air, frequently stirring or turning to prevent heating. When thoroughly dried, at the end of two or three weeks, it is sent to New York or to the nearest mill for sale. In this state it is worth from \$1 25 to \$1.75 per hundred lbs., but woody stems and dirt detract from its value very much. The buyer in the interior of Virginia, North Carolina, South Carolina, and Georgia can seldom afford to pay more than \$1 per hundred.

At the mill it is ground very fine and screened. The mill is of the usual drug mill form: an upright wheel revolving on its edge in a circular trough, as the old-fashioned mill for grinding clay. It should be tightly inclosed; if not, a large quantity of the light, fine, powdered sumac will escape and be lost. On care and economy in this operation depend the miller's profit. After grinding, it is screened and packed in bags—162 lbs. to the bag—and thus sent to market. The bags to hold this quantity should be cut out 40x60 inches. Fourteen such bags will hold a ton. This is exactly the style and weight that Sicilian sumac is packed as sent to this country. To sell well it should be of a light green color.

The time of gathering is from July 1st to just before first frost, not later; in some parts it may commence earlier. It should be done when the flower is in full bloom, not before.

## PRODUCT AND CONSUMPTION.

It is stated that the consumption of sumac in Great Britain is over 20,000 tons per annum, and that it is yearly increasing. In this country we use 3,500 tons of native and perhaps 3,000, or over, of foreign; probably 500 tons of native we export. As the demand and uses for leather never grow less it is not at all probable that all which the South can produce, if properly prepared, will ever fill the needed supply; and if it should create a plethora on

the market it would only cause new uses to be found for it, or engender the production of a finer article.

There is no reason why we should not export at least 5,000 tons to Europe, and supply all our own demands. The mill machinery is said to cost \$2,500 without power. With the crude article at \$1.50 per hundred even, \$12 to \$15 per ton for grinding and bags, \$10 for loss, and \$10 for freight to New York, there is certainly a fair margin of profit at \$90 per ton at least, which price a good article will certainly always bring in New York. Our figures of cost, also, are rather high. There is plenty of room for at least ten more mills in the now unoccupied field of North Carolina, South Carolina and Georgia. Any good business place in the upper or middle sections of these States will do as a site.

#### ITS CHEMICAL PRINCIPLES AND USES.

We have stated that sumac is used for tanning and dyeing. For these purposes the user generally makes his own decoctions, and uses them when fresh and warm. It is stated that the liquor injures by standing. For tanning it is valued, as it does not discolor the leather. It is used in the same manner as a decoction of bark. Best Sicilian contains, according to Muspratt, sixteen per cent. of tannin and Virginia ten per cent. We have no doubt the vastly improved mode of gathering and preparing the American sumac will now increase in quantity of tannin.

In dyeing it is used to produce a fawn and a rich yellow, a black, a peculiar shade of green, and a red. The mordants are usually tin or aluminous substances. With Brazil wood and tin solution it produces a red. With copperas and log-wood a rich permanent black. With a solution of chloride of tin alone, a rich yellow, and this with Prussian blue shades of green. It is used chiefly as a base, and has the quality of giving great permanency to the colors dyed with it. The leaves of the hairy species called staghorn are considered best to dye yellow.

#### THE SUMAC BERRIES

are of very little value, though we think in the progress of science a use will be found for them. They are said to contain large quantities of malic acid. They are now used in small quantities by the druggists, and when ripe make a very refreshing and cooling beverage. They should by all means be kept out of the gathered leaves, as they contain a red dye, hence would injure the quality of the sumac.—*Scientific American*.

The family of bird lice is a very extensive one, embracing many genera, and several hundred species. One or more species infest the skin of all our domestic and wild animals and birds, some birds sheltering beneath their feathers four or five different species.

#### Application of Manure.

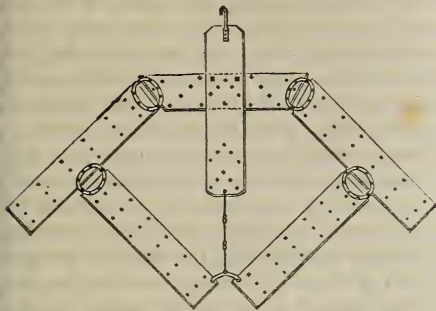
There is much diversity of opinion among farmers in regard to the application of manure. Some maintain that it is best to apply manure fresh from the stable and plow it under immediately, while others are advocates of letting it undergo fermentation, and mixing with the soil on the surface.—The former method is to prevent evaporation, and the latter is to prevent filtration, neither of which is very important, for manure will not exhale much of its useful parts, when spread on the surface, and filtration is imaginary. The surface of the soil, and the atmosphere, are the manipulators of fertility, and manure put on the subject or plowed under, will find its proper level through the agency of air, earth, and water. Only put it plentifully on, as the old farmer said in reply to the question, how shall manure be applied, on the surface or plowed under? "*only put it plentifully on,*" is the only answer he would give to the question. Manure that suits on one kind of soil may not suit so well on other soils. Long unfermented manure it is best to plow under in a hard clay gravelly soil, to loosen it up, but beyond that no matter how manure is applied.—*Exchange*.

WHAT IS LOAM?—Just what it is made to be in agriculture, its place; the dictionaries vary and are unreliable. What then does agriculture make loam to be? It makes it to be a *mellow* soil: that comprises the basis. We never speak of soil as loam, that is hard and cloddy; neither of pure sand, which is not soil in the true sense. But a rich vegetable mold if mellow—as is the case with such soil mostly—is loam. If not rich, it still is loam, so that we may say, as we do, a rich loam or a poor loam, poor in such and such matter; or we say sandy loam, clay loam, a yellow loam, a black loam. These and other terms are used, and they make the definition. In pure science the term is more confined, but it is convenient to use the common terms employed to describe a widely variant mellow soil, including of course the loam proper of the schools. Shall we discard the common terms of the people and adopt only the scientific? Yes, when we adopt science alone as our standard; when the common people are all expert farmers; but at present this cannot be done. We must still use the convenient epithets to describe our land, particularly as our professors are not agreed as to terms.—*Country Gentleman*.

KEEPING EGGS.—J. R. Sheldon of New York, gives his method of keeping eggs. In addressing the *Country Gentleman*, he says: I have no trouble in keeping eggs, when I put them in two gallons water, with one pint lime and one pint salt added. Stir them occasionally.



## Thomas' Patent Smoothing Harrow and Broadcast Weeder.



TOP VIEW.

One of the Sections showing the Slanting Teeth.



SIDE VIEW.

## THOMAS' PATENT HARROW.

This harrow is represented as "a very effective implement for giving the finishing touch to the surface of the ground before planting, and for destroying weeds and loosening the soil among crops until they get well growing." The following special advantages are claimed by the proprietors:

"It is drawn more easily than the common harrow or roller—one horse taking a width of five feet and two horses eight feet. It does not clog like the common harrow, the backward inclination of the teeth clearing it of all dry rubbish, weeds and litter, causing it to ride over stones or other obstructions. Consisting of pieces hinged together, it readily adapts itself to uneven surfaces. By raising the hinder end of each piece or section, it is easily unhooked and taken to pieces, ready to be conveyed to or from the field, while it cannot possibly unhook while in use." It has been thoroughly tested, and has been found eminently valuable for the following reasons:

"Harrowing wheat in the spring. Smoothing the surface for the grass crop. Pulverizing the soil to receive clover seed. Covering grass seed to insure its growth.

It will not succeed well in badly cultivated fields, or where there are many sods, lumps, stones, or any rubbish. Fields covered with old corn stalks are not adapted to it; but in corn fields that are clean and mellow, it works to perfection and saves a vast amount of labor."

C. E. Coffin, Esq., Pres't Muirkirk Iron Company, Md., says of it:—"So far as I have used the Harrow, it has given entire satisfaction. It puts the ground into the very best condition for planting, leaving it as fine as any garden need be."

J. J. Thomas & Co., of Geneva, New York, are the proprietors and manufacturers. Price, \$25.

Gold gives a ready passport at any gate except the gate of Heaven.

## To Preserve Green Grapes.

A correspondent in the *Scientific American*, writing from Indianola, Texas, gives the following "very simple and successful method of preserving the green grapes of wild vines: The grapes must not be too old; the best time is just before the seed begins to harden. They are, after being picked and freed from stems, put into bottles (strong wine or champagne bottle sare best) so as nearly to fill the latter. These are then filled with fresh and clean water.—After this they are all placed in a large kettle partially filled with cold water, and temperature raised nearly to the boiling point. The water in the bottles expands by the heat, and part is driven out. As soon as sufficiently heated, they are taken off, enough water poured out of each bottle to merely allow a well-fitting cork to be pressed in tightly. After being corked they are sealed in with sealing wax or common beeswax. As the bottles cool down a partial vacuum is left in the neck of each.

Grapes thus preserved have kept for years in this climate, where canned fruit almost invariably spoils during the hot summers. They can at any time be opened and prepared like fresh grapes, no difference will be found in the taste. It is better to use the water, also, in which they were kept, as it contains a large percentage of tartaric acid, which gives them the pleasant sour taste. I hope some will try this method and profit by it."

[To prevent breakage in heating, put some pebbles in the bottom of the kettle, so as to keep the bottles from touching the metal.—Eds.]

**TO PRODUCE A POUND OF FLESH.**—An English chemist has been experimenting for the purpose of ascertaining how much of various kinds of food must be eaten in order to make one pound of flesh. He comes to the conclusion that it requires 25 pounds of milk, 100 of turnips, 50 of potatoes, 50 of carrots, 9 of oat-meal,  $7\frac{1}{2}$  barley-meal, and  $3\frac{1}{2}$  of peas or beans.

# THE MARYLAND FARMER

AT \$1.50 PER ANNUM,

PUBLISHED ON THE 1ST OF EACH MONTH,

BY

**S. SANDS MILLS & CO.**

**No. 145 West Pratt Street,**

Opposite the Maltby House,

**BALTIMORE.**

S. SANDS MILLS, } PUBLISHERS AND PROPRIETORS.  
E. WHITMAN, }

**BALTIMORE, NOVEMBER 1, 1870.**

## TERMS OF SUBSCRIPTION:

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\$12.00.

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## DEATH OF GEN. LEE.

The death of General Lee, gave rise in Baltimore to the most touching manifestations of sorrow for his loss. The meeting called at the Masonic Temple, by officers and soldiers who had served under him, was attended by such large numbers of citizens also, that not only was the great Hall packed full, but the passages leading to it; whilst hundreds of other persons had to go away who could not even get standing room. The City Council passed appropriate resolutions; the flags at our wharves, and on many buildings in the city proper, were hung at half mast; the bells were tolled, and the stores on the principal business streets were draped heavily with the insignia of mourning. The grief of the community was as profound as it was sincere.—Many of our citizens whose sympathies were not with the South, during the war, bore willing testimony to the noble qualities of the great Southern Commander, and the Christian virtues that adorned his character. Now that he is gone, even detraction is silenced, and his nobility of soul acknowledged by those who once ranked themselves, if not among his particular enemies, yet as the enemies of the cause for which he fought, suffered and died.

YEAR 1871.—A new volume of the MARYLAND FARMER begins January next, 1871!

## RURAL ARCHITECTURE.

By the courtesy of the editor of the *Rural New Yorker*, we have obtained the cuts of a Circular Mansion, designed by our Baltimore rural architect, J. Wilkinson, Esq. Mr. W. has had much experience in the way of supplying all the structures and features of decoration and luxury required in fitting up rural houses, as that has been for twenty years, or more, a speciality with him. His prize design of a set of farm buildings has justly elicited numerous encomiums from those who are practical and competent judges of such matters. His Circular Mansion is certainly one of the most unique and luxurious dwellings that we have seen. The description of it, prepared by Mr. W., is so explicit and the plans so plain, that the design, in detail, is made intelligible to those unacquainted with the technicalities of the art of architecture.

The entire arrangement is replete with convenience and comfort; nothing seems wanting. None will deny that it is an original, novel and most ingenious design. Mr. W. informs us that it is to be built at Union Springs, Ala. It is to be finished in good modern style and will cost about \$32,000.

## Diseases of the American Horse and Cattle and Sheep.

John E. Potter & Co. of Philadelphia, have just published a valuable work by Dr. Robert McClure, V. S., entitled the "Diseases of the American Horse and Cattle and Sheep, their treatment, with a list and full description of the medicines employed." It is a sound and practical work, containing 400 pages, the subject matter is conveniently arranged alphabetically. It is just such a book as has long been needed, and the Doctor, from a long and successful practice is the man to prepare it. To the farmer and breeder, it will prove of inestimable value. Every experienced farmer, amateur, breeder, veterinarian and stock owner, under whose notice this highly useful work may come, will concur with us in the statement that it is greatly superior to any thing heretofore published upon the subject. The work is numerous illustrated and the price only two dollars. Address John E. Potter & Co., publishers, Sansom street, Philadelphia.

FREDERICK COUNTY FAIR.—This Fair was held on the 11th of October, continuing four days, and under the management of its experienced and indefatigable officers, was a great triumph. There was an immense outpouring of the people, the enclosure being crowded daily. The fine stock, poultry, implement and household departments were well represented and reflected great credit on all concerned. Frederick can well boast of the character of her exhibitions.



## SOUTHERN INTERESTS.

*To the Editors of the Maryland Farmer:*

I have recently received a pamphlet of near one hundred pages, containing a very interesting description of the first Texas State Fair, held in May last, at Houston, and an address delivered on that occasion by the Hon. John H. Reagan, at a meeting of the "Agricultural, Mechanical and Blood Stock Association of Texas."

Judging from the great variety, and the useful character of matters exhibited, and the prizes awarded, this first exhibition in the new "Star" State, would have been very creditable to many of the older States, and the selection of an orator by the Association for this grand occasion, is very creditable to the directory of the fair.

I have read the address of Mr. Reagan with great interest. It is practical and orthodox throughout; and is as applicable to the wants and interests of many other States in the South as to those of the citizens of Texas. I devoutly wish that it could be read by every planter in the South; if it were, and the instructions heeded, the effect would be, soon to secure to them, a degree of prosperity that all the world would covet. I will extract a few sentences from this address which I hope you will have space for in the forthcoming No. of the *Farmer*.

"Out of the possession of slaves, in large numbers, grew our system of large plantations. That system, whether good or bad, yielding to the inexorable logic of events, has passed away. And many of the reasons and practices under which it was conducted have ceased to be of practical utility. It passed away amidst the throes of revolution, the roar of artillery, and the tread of armies, which shook this great continent, and arrested the attention and excited the interest of the civilized world. It passed away when, by the exhaustion and ravages of war, we were greatly impoverished; and, by the casualties of which, a large portion of the most intelligent, enterprising and efficient of our men had perished. This occasion permits no more than upon their graves to drop a silent, a sincere and affectionate tear, springing from hearts in which the memory of their virtues and their services are sacredly and forever enshrined. Our former industrial system passed away when all the griefs which spring from defeat, overthrow, and subjugation in war, were on us; when our great losses in men were fresh in our memories; when poverty is grinding us to the earth; when the wail of widows and the cry of orphans were borne on every breeze; when our hearts were sick—our souls wearied. This was five years ago. An industrial system, new to our people had to be substituted for one which had been handed down to them from generation to generation, under the protection of their State constitution and laws, and of the constitution and laws of the United States.

It might well have been supposed they would yield, in despair, under such trials and such changes. But they have triumphed over these; over their accumulated misfortunes; over the weakness of human nature itself. They have accommodated

themselves to the new condition of things; and are steadily building up a new industrial system, in harmony with their new condition, and wants, and necessities. And in this they have, it seems to me, exhibited a moral courage, an energy of will, a heroism of fortitude, not surpassed in the annals of mankind. And from the contemplation of this we may well judge as to the probable success of their future, under the blessings of peace and legitimate civil government, if these shall be accorded to us, in the development of the great agricultural and other material interests of the State. But if we are to have an arbitrary and remorseless State government of the bayonet, with a system of hired State police and subsidized spies superadded, God only can know the sorrows, the trials, the griefs, the burden of taxation, and the depths of poverty which still await us.

I must now point out some of the errors of the old system which should be avoided in the new, and call attention to some of the means which should be employed to secure our future success.

One of the cardinal vices of our former system was our too exclusive attention to the production of a few staple articles. Indeed, it may be said, in this State, the single article of cotton, and the want of sufficient attention to the production of the provision and forage crops, and to the products of the orchard, the garden, and the dairy. Another was the devotion of so much time, labor and capital to the purchase of land and slaves, and to the production of cotton, as to leave, substantially, no capital with which to build railroads, improve our navigable waters, build up manufacturing establishments, and encourage and employ mechanical skill; or with which to build and furnish comfortable dwellings and out-houses; and for the improvement and ornamenting of grounds. And by so neglecting these improvements, as with many, if not the most of our people, to a large extent, to exclude the idea of home comforts and pleasures, and to produce a feeling of restlessness and discontent, which may account for the very small proportion of our people who felt themselves permanently settled. Another of its great vices was the almost universal attempt by farmers and planters to cultivate larger areas of land than they were able to cultivate successfully; which resulted in depriving the pursuit of agriculture of most of its pleasures, in greatly lessening its profits, in the premature exhaustion of the soil, for want of proper cultivation, manuring and drainage; and, in so exclusively occupying their time as to prevent the necessary attention to buildings, enclosures, to gardens, orchards, etc. Another of its vices consisted in the too limited extent to which improved agricultural and horticultural implements and labor-saving machines were employed. \* \* \*

These industries call for a higher degree of skill than has heretofore been applied to them; and our best interests require that they should be so diversified that we may no longer raise cotton and send it off to purchase corn, and flour, and oats, and potatoes, and bacon, and pork, and lard, as we now do. It may not surprise you less than it did me to learn, on the authority of the Galveston News, usually well informed and reliable on such subjects, that we imported, for home use, probably over two and a half millions of dollars worth of these articles last year; and the amount of such imports are probably greater this year. If this were the result of misfortune we should deserve sympathy, but,

when it has sprung purely from the want of the exercise of judgment, and from folly, little less than criminal, we deserve reproach.

And, while diversifying our crops, we should cultivate less land to the hand, fence it better, manure it more, drain, and especially underdrain, it better, give more attention to the proper rotation of crops, rest our land more frequently, plow deeper in preparing for planting, use the sub-soil plow more, and use, as I think, harrows, cultivators, and sweeps, after crops are planted, or at least after the roots of the plants have begun to run. In other words, and I speak from practical experience and personal observation, our lands ought to be broke in deep, and thoroughly pulverized, before planting, that they may the better retain the moisture furnished by the spring rains, through the dry season, to which we are sometimes exposed, in the latter part of May and in June and July."

### THE TURF.

The New York *Times* is somewhat enthusiastic on the subject of horse racing. It goes so far as to admit that "care in producing racing stock is attended with advantages so considerable as to become even national in their importance." A frank admission, and one that the *Times* would not have made two years ago. If we mistake not, there was a time when this morning journal refused to see anything good and bright in the games of the turf. Therefore we can all the more highly commend its altered tone. The *Times* goes on to say: "Comparatively few take into consideration the fact that there is really a value in the amusement they go to see apart from its obvious recommendations. Yet the fact is at once incontrovertible, and a substantial reply to those who regard horse racing only as a means of dissipation and excitement. This consideration should certainly increase public gratitude towards those gentlemen who, at weighty expense and infinite pains, are doing so much to advance the position of the American turf, by improving breeds of horses, and adding in every possible way to the *ecclat* and respectability of the Jockey Club meetings. Much has been done in the United States in this direction, but a great deal yet remains to be done. The improvement of the horse has been going on in Great Britain for centuries while here it can hardly be estimated by two brief generations. When the animal was unknown in America—for although an inhabitant of the country in the post pliocene period, the natives first discovered by Europeans could not boast of horses—he had flourished in the Old World from time immemorial. In this, as in many other directions, we are called upon, in order to get abreast of civilization elsewhere, to work with extraordinary energy and swiftness. To compass so desirable an end, gentlemen like Messrs. Jerome, Sanford, Cameron, Lambard, Belmont and others have devoted remarkable zeal and liberality,

and the community at large is indebted to them for the extent to which, through their efforts, the object has been accomplished. The warrior's charger and the lady's palfrey of the future will not alone be the better for such pains; the improvement will spread in every direction, and in the end confer a national advantage. Thus, when the banners of the Jockey Club are flung to the breeze, and beauty and fashion adorn Jerome Park, we are not to reckon on the pleasure of a day as the sole end and purport of the gathering. The meetings are simply tokens of what is being done—very delightful in their way, but still promises of achievement rather than achievement themselves. And from this point of view, and divested as these meetings are of the gross signs of vice so frequent in general at racecourses, even the fastidious can see in the holidays at Jerome Park much to approve as well as to enjoy. The experiment has, at all events, been fairly tried there—and we are bound to add with undeniable success—to present a sport which is incident to the development and elevation of the noblest animal in the service of man, in a manner nowhere excelled, and with surroundings to which not even the most sensitive lady can object. A similar attempt has been previously made with the better class of our theatres, and with like success. Both amusements have long had the misfortune to be confounded with sinister, but, as the event has shown, by no means inseparable surroundings."

THE TURF, FIELD AND FARM itself could not put in a stronger plea for the turf than this. In fact, we have used the same argument time and again, but the agricultural portion of the press has refused to listen to the argument. The purely agricultural papers are nearly as obstinate, in some things, as they are stupid. Now that the *Times* agrees with us, will not some of the other papers consent to see behind racing the improvement of the horse?—*Turf, Field and Farm*.

A LARGE YIELD OF CORN.—Mr. Jos. R. Thomas, of Woodlawn, sends the Cecil Whig the following account of an immense yield of corn. It would be of interest to the public to know what variety of corn produced this large crop, and how manured and cultivated. He says:

"I have just husked a lot of corn. The lot is 107 yards by 27 yards. Product 45 barrels. I had one barrel shelled, and it made  $1\frac{1}{2}$  bushels. Mr. Waring made the calculation and finds it to be 7-12 of an acre. Yield at the rate of 114 bushels per acre. The lot was small, and it grew under the shade of four large locust, three large cherry trees, and an orchard across one end."

A new volume of the Maryland Farmer will commence in January next, 1871. Subscribe.



## HOW TO SALT BEEF.

We extract the following from an article in the Transactions of the New York State Agricultural Society, by Hon. Geo. Geddes :

The first object aimed at in curing meat, is to take from it a part of what Dr. Emmons calls its "constitutional water," and put in its place, and in the substance of the meat, salt. Thus dry salt much sooner "strikes in" than does wet or moist salt. The English people dry salt their meat very generally. It is sometimes done by rubbing the meat with fine salt, and then placing it in piles, and when the salt is absorbed rubbed again, and so repeating the process until the meat becomes so dry that it will take no more salt. Sometimes it is packed in dry salt in casks, and the labor of rubbing saved. By the rubbing process the meat is made to take a large quantity of salt, and is thus fitted for keeping a long time in hot climates, but is made unnecessarily salt for keeping in cold climates. The object of using brine is to keep the air entirely away from the meat; it does not aid in salting, but it retards the process. The English advocate salting meat while it is yet warm with animal heat. Our American "packers" very generally refuse to pack meat until all animal heat is out of it. The following receipt for salting meat is taken from the Encyclopedia of Domestic Economy," published in London in 1852—as being furnished by Admiral Knowles :

"As soon as the ox is killed let it be skinned and cut up into pieces fit for use as quick as possible, and salt while the meat is hot; for which purpose have a sufficient quantity of bay salt and saltpetre pounded together and made hot in an oven, of each equal parts; with this sprinkle the meat at the rate of about two ounces to the pound; then lay the pieces on shelving boards to drain for twenty-four hours, turn them and repeat the operation, and let them lie for twenty-four hours longer; by this time the salt will be all melted and will have penetrated the meat, and the pieces may then be drained off. Each piece must then be wiped with clean, dry cloths, and a sufficient quantity of common salt, made hot likewise in an oven, and mixed when taken out with about one-third of brown sugar; the casks being ready, rub each piece well with the mixture and pack them well down, allowing about half a pound of the salt and sugar to each pound of meat, and it will keep good for several years, and eat well. It is best to proportion the casks or barrels to the quantity consumed at a time, as the seldomer it is exposed to the air the better. The same process does for pork. only a smaller quantity of sugar, and more salt will answer; but the preservation of both depends equally on the meat being hot when salted." So much for Admiral Knowles,

who evidently salted his beef to keep for "several years." But we quote further: If the salting is performed immediately after the animal has been slaughtered, and is still warm, and before the fluids are coagulated, the salt penetrates rapidly by means of the blood vessels through the whole substance of the meat; and this is the practice in Ireland, in the provision trade. In warm climates it is important to preform the operation of curing meat very quickly, to prevent putrefaction; and Mr. Jackson, in his reflections on the trade in the Mediterranean, informs us that this operation is admirably performed at Tunis, where the heat is 110° in the shade. There a good sized bullock of 600 or 700 weight is killed and salted in three hours. They use a good deal of pepper.

## Mode of Curing and Packing Mess Beef.

The following mode of curing and packing was furnished for the *Farmer* by the Messrs. Krebs Brothers, very extensive and reliable packers of Baltimore city :

A barrel of mess beef should be made from good and well fattened cattle, to weigh when dead about 450 pounds. Each barrel should contain 200 pounds, cut in pieces to average 8 pounds. The following cuts only are allowed in a barrel of mess beef viz: 4 chucks, 2 pieces of the shoulder, with the large bone taken out, 6 pieces of sirloin, 5 pieces of rib, and for a heading use 6 pieces of plates, 1 rump and 1 flank. After cutting your beef as above pack it into a barrel, using to each barrel about one half bushel of Turks Island or St. Ubes salts, and about 1 teaspoonful of saltpetre. It should be packed—first a layer of salt, and then a layer of beef, and so on alternately, with a little of the saltpetre on each layer of beef. After you have it all in the barrels fill them full of pickle strong enough to float an egg, and head it up tight.

## Pickling Pork and Curing Hams.

A correspondent in the *Country Gentleman*, writes from New Hill, Sangamon, Ill., in reply to "a Farmer's Wife," asking direction for pickling pork, and gives the following method :

For each 100 pounds of pork, weigh out 8 pounds of salt. After the meat is cold, rub each piece well with part of the salt. Repeat the operation the next day. The third day take the remainder of the salt, which should be about 5 pounds, add to it 2 pounds brown sugar, 4 ounces saltpetre, 1 pint of molasses, and about 3 gallons of water. Boil and skim, and when cold, pour over the meat, which should in the meantime have been closely packed in a suitable vessel and weighted down just enough to insure its all being covered with the brine. Eight pounds of

salt, 2 pounds sugar, 4 ounces saltpetre, and 1 pint of molasses, are enough to cure 100 pounds of pork in good style, and if 3 gallons of water does not make brine enough to cover the meat, (which is sometimes the case when the pieces are so rough they cannot be packed close,) more water must be used. In six weeks the meat should be taken out, and the brine, boiled again and skimmed, so as to remove the blood. Rinse the meat in cold water and rinse out the vessel, then repack, and when the brine cools, pour it over as before, being sure to have enough to cover all the meat. To this end it may be necessary to make some new. About the last of March or the first of April, when the weather beings to get warm, the brine should again be boiled and skimmed, and the meat replaced as before. If kept in a good cellar it will remain good and palatable as far into the summer as you may choose to save it, and when taken out to cook will be found to look as bright and fresh as fresh pork itself. We cure hams and shoulder in the same way—only that at the end of six weeks they are taken from the brine, hung up to dry, and then smoked. Better cured hams we have never seen. It is sometimes convenient to cure the hams and shoulders and pieces for pickle pork all together in the same vessel, in which case, when the hams and shoulders are taken out to hang in the smoke-house, the brine left in the vessel will be enough to cover the remaining meat. It should be boiled and skimmed as above directed.

#### Receipt for Curing Meat.

To one gallon of water, take  $1\frac{1}{2}$  pounds of salt,  $\frac{1}{2}$  pound of sugar,  $\frac{1}{2}$  ounce of saltpetre,  $\frac{1}{2}$  ounce of potash. In this ratio the pickle to be increased to any quantity desired. Let these be boiled together, until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold, pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes all the surface blood, &c., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well; though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar.—*Ed. Germantown Telegraph.*

AGRICULTURAL FAIR AT CUMBERLAND.—The Second Annual Fair of the Agricultural and Mechanical Society of Alleghany county, Md. and West Virginia and Pennsylvania, was held on the 4th of October and continued four days. The exhibition was highly creditable and augured well for the future of the society.

#### Purification of Lard.

Take 28 pounds of perfectly fresh lard; place it in a well-glazed vessel that can be submitted to the heat of boiling salt-water bath, or of steam under a slight pressure. When the lard is melted, add to it one ounce of powdered alum and two ounces of table salt. Maintain the heat for some time—in fact, till a scum rises, consisting in a great measure of coagulated proteine compounds, membrane, etc., which must be skimmed off. When the liquid grease appears of a uniform nature it is allowed to cool. The lard is now to be washed. This is done in small quantities at a time, and is a work of much labor; which, however, is amply repaid by the result. About one pound of the grease is placed on a slate slab, a little on the incline, a supply of good water being set to trickle over it. The surface of the grease is then constantly renewed by an operative working a muller over it, precisely as a color-maker grinds paints in oil. In this way the water removes any traces of alum or soap; also the last traces of nitrogenous matter. Finally, the grease, when the whole is washed in this way, is remelted, the heat being maintained sufficiently to throw off any adhering water. When cold, the operation is finished.—*Druggist's Circular.*

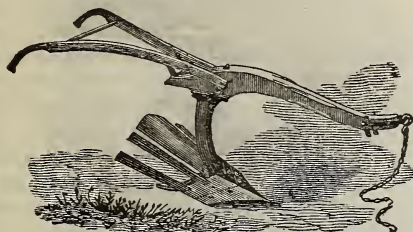
#### Making Sour Kraut.

This is the appropriate season for making sour kraut, which is not only a preparation of cabbage highly relished by many, but an easy economic method of keeping cabbage ready for use through the winter. The Germantown Telegraph, good authority, gives the mode of making as follows: "In the first place, let your 'stand,' holding from a half a barrel to a barrel, be thoroughly scalded. Take off all the outer leaves of the cabbages, halve them, remove the heart and proceed with the cutting. Lay some clean leaves at the bottom of the stand, sprinkle with a handful of salt, fill in half a bushel of cut cabbage, stamp gently until the juice just makes its appearance, then add another handful of salt, and so on until the stand is full. Cover over with cabbage leaves, place on top a clean board fitting the space pretty well, and on top of that a stone weighing twelve or fifteen pounds. Stand away in a cool place, and when hard freezing comes on remove to the cellar. It will be ready for use in from four to six weeks. The cabbage should be cut tolerably coarse. The Savoy variety makes the best article, but it is only half as productive as the Drumhead and Flat Dutch."

CABBAGE WORM.—A.B. Allen of New-York, states that he has found an application of whale-oil soap suds effectual in cleaning his cabbages of the worm



## R. H. ALLEN'S POTATO DIGGER.



N. R. Fitzbugh, of St. Paul, Minn., a correspondent of the *Country Gentleman*, gives his experience with Allen's Potato Digger:

"I usually plant three or four acres in potatoes and have made it a rule with me to hire extra help to dig my crop by hand labor, and the cost has run from 12 to 10 cents per bushel, and have always considered it one of the most vexatious crops to get out and put away.

This season, the first day after getting my Allen's Potato Digger, with my hired man and my little son (nine years old) to help me, I dug and hauled off, and put away in my cellar, 67 bushels, beginning my work at 10 A. M. and quitting at 7 P. M., just 7 hours working time.

This trial satisfied me, and I have finished my crop with only the help mentioned, and I shall double or treble my potato ground next season, feeling sure of being able to harvest my crop."

## Salt as a Fertilizer.

Peter Jones at a recent discussion at the New England Fair, "went in for salt as a fertilizer. Sowed a thousand bushels broadcast on a portion of his wheat ground last season, and the yield was a third more than on that where no salt was used. Said he should sow five thousand bushels the coming season on his wheat grounds."

A correspondent of the *Tuscarawas, Ohio, Advocate*, relates the following experiment with the use of salt for a wheat crop: "I have been reading for the last six years about the use of salt as a manure or fertilizer, and last fall I purchased about five barrels of dirty salt, very cheap, for trial. I broadcast about two and one-half bushels of salt to the acre, after the land was plowed. I then harrowed my land and drilled my wheat. I salted about six acres in this way in a field of 22 acres, and the salted part was stacked separate, and the result was the salted part gave me from seven to eight bushels more per acre than that part that was not salted, and also plumper wheat. That which was not salted was shrunken."

The fairest action of human life, is scorning to revenge an injury.

## The Mount Hope Nurseries of Ellwanger &amp; Barry, Rochester, N. Y.

This establishment was founded in 1838 by the senior proprietor, and in 1840 the present copartnership of Ellwanger & Barry was formed. The grounds then covered eight acres—the ground where Mr. Barry's residence now stands. The land at that early day—thirty years ago, cost upwards of \$300 per acre. Mount Hope Cemetery had just been opened. In looking over a file of the old catalogues, we find that in 1843 they had fourteen acres; in 1846, twenty-three acres; in 1850, eighty acres; in 1852, two hundred acres; and in 1859, or on the completion of the twentieth year, five hundred acres. At present, 1870, six hundred and fifty acres are occupied, of which eighty to one hundred are in farm crops or fallow, in a state of preparation for nursery crops, and fifty acres of new ground are ready for next spring's planting. Between four and five hundred acres of this is owned by the firm, and the balance rented. Much of the land of the firm is very valuable—over one hundred acres are in the city, which is closely built up to it, and all of it on the city borders; the average would probably not be short of \$1,000 per acre. Rented land costs from \$15 to \$25 per acre per year; much of the land is underdrained at an expense of \$40 to \$50 per acre.

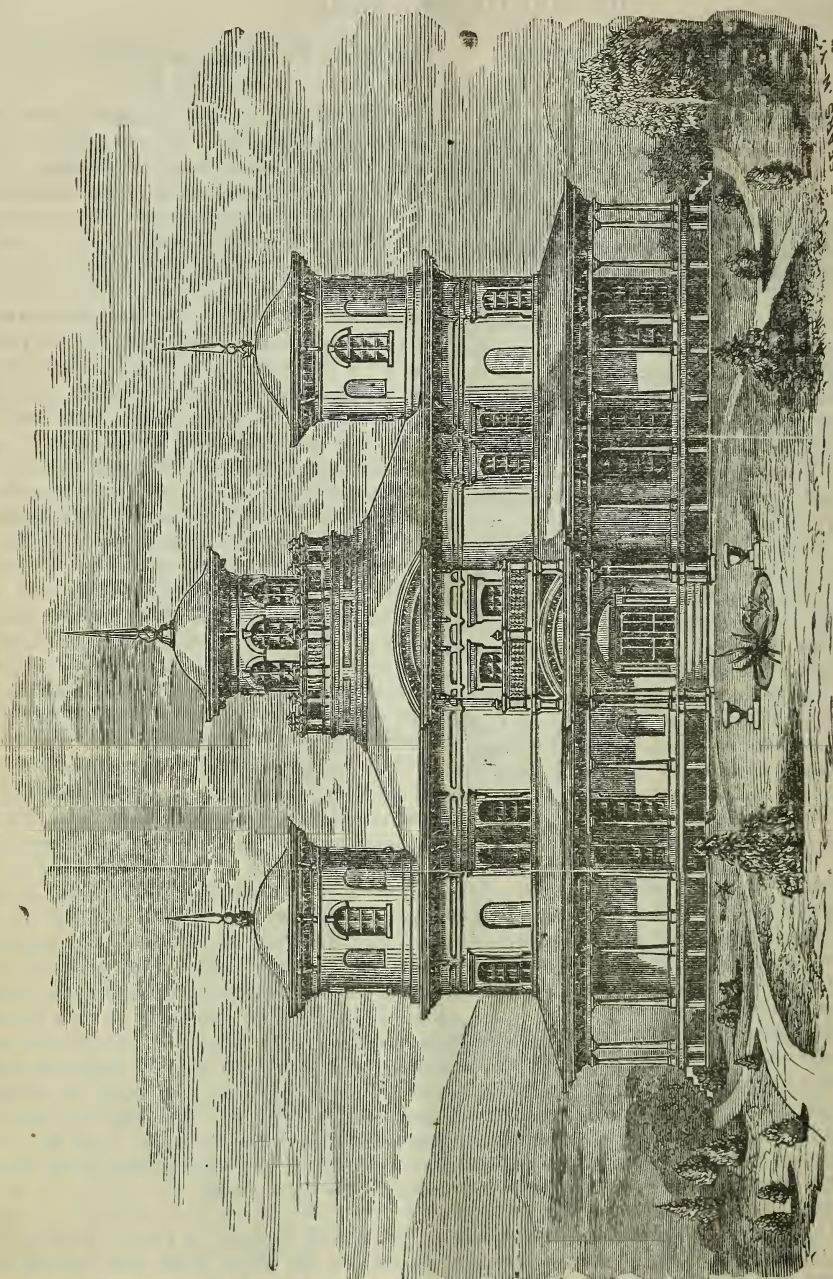
So, if we take the value of this nursery land and of the stock growing upon it, even at a low figure, the investment assumes large proportions, and the necessity for good management becomes apparent.

How THE NURSERY IS DIVIDED.—The land is occupied by the various departments about as follows:—Fruit trees, four hundred acres—of which, say one hundred and fifty acres are apples, one hundred and fifty pears, thirty plums, thirty cherries, thirty peaches and other fruits, ten currants, strawberries, blackberries, raspberries, &c., six grapes. In ornamental trees, shrubs, &c., one hundred and twenty acres—of which fifty are deciduous trees, sixteen evergreens, nine acres roses, the balance herbs, plants, bulbs, &c. Specimen fruit and ornamental trees, twenty-five acres; lawn, &c., four acres; vineyard, and bearing small fruits, thirty acres.—*Rural New Yorker*.

THE ANNUAL DIRECTORY of Poultry Breeders and Fanciers in the United States and Canadas, for 1870, is received, giving the names and residences of the principal breeders, together with the various breeds to which they are paying attention—valuable to those interested in poultry raising. Published by G. E. Cleeton, New Haven, Conn. Price twenty-five cents.

Be kind to all animals—they will repay you.

## CIRCULAR MANSION.



FRONT ELEVATION.

## A CIRCULAR MANSION.

DESIGNED FOR MOORE'S RURAL NEW YORKER, BY  
J. WILKINSON, LANDSCAPE GARDENER AND  
RURAL ARCHITECT, BALTIMORE, MD.

The author of this original, novel and peculiar plan and

form of a dwelling, was induced to attempt to arrange a house in a circular form, with circular, or oval rooms, and a passage with a waved outline, not for the novelty of the design, but under the conviction that an economical, beautiful, and more palatial and luxurious residence could be built in this form than in any other.

This building is designed for a rural residence, and it is



particularly adapted to a site where it will be in full view on every side, as the elevation is nearly equally imposing from every point of view.

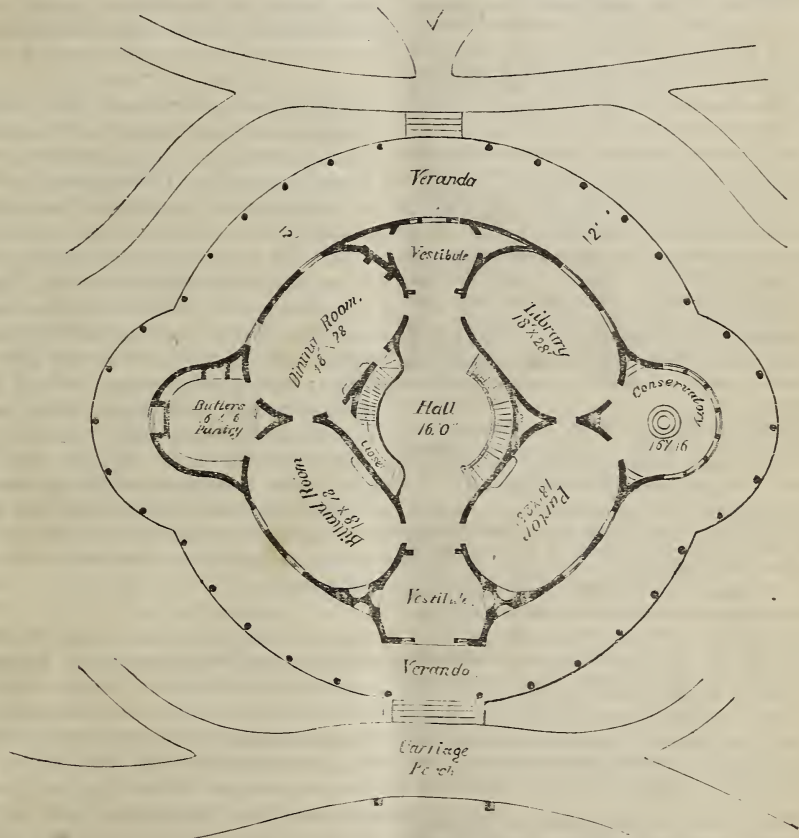
The body of the building is 62 feet in diameter; it has two circular projections, 17 feet in diameter each. The main building is two stories and a basement; the projections, or towers, are three stories. The height of the ceilings of the respective stories are as follows:—The basement, 9 feet 6 inches; the principal floor rooms, 13 feet; the chambers, 11 feet, as also are the third story rooms in the towers.

The division of the principal floor consists of a fine passage, from 8 feet to 16 feet in width, with vestibule front and rear; a suit of four rooms of the same shape and size, viz., 17 feet 8 inches x 28 feet; a butler's pan-

try nearly equivalent to that admitted by an immense bay window; hence all the apartments are very perfectly lighted.

The center of the main hall is circular, 16 feet in diameter, being open to the ceiling of the central cupola, 42 feet in height, through the opening, or well hole in the floor of the second story, 16 feet in diameter; the ceiling of the second floor being domed over to the base of the cupola. These features combined, constitute a central rotunda, such as is rarely seen in a private mansion, and one that will be charming in effect, particularly, as it will light up the walls of both upper and lower hall so favorably for the display of paintings and engravings, with which they may be hung.

The chamber floor is divided into six beautifully lighted



try, 16x16 feet; a store room of irregular form, and a conservatory, 16x16 feet. The doors from the passage to the rooms are opposite; the rooms on each side of the passage are connected, and the conservatory connects with both the parlor and the library. The doors on the principal floor are all folding, and six feet in width, thus providing a grand promenade circuit, which may be extended through the conservatory if preferred.

The form of the rooms and their respective positions, as will be seen by reference to the plan, could not be more desirable; and in consequence of the form of the rooms and the location of the windows, the angle at which the light is received in each apartment, makes the amount of

light and ventilated private rooms, each 17 feet 8 inches, by 14 feet; one 17 feet 8 inches, by 28 feet; one 16x16 feet, with four dressing rooms, 7x14 feet; and two spacious bathrooms, with water-closets in each, besides an abundance of closets.

There are also two fine rooms in the third stories of the towers, which are as pleasant as any in the house. The principal staircase is wide, well lighted, easy and very beautiful. There are also private stairs leading from dining-room to basement.

The basement is divided into a kitchen, the same size as the rooms on principal floor; a laundry, with an ice-pit under it; a house keepers' room; three fine sleeping apart

ments for servants; a splendid wine cellar; a large fuel room; one for heating apparatus; a servants' water closet; and a spacious passage running through.

The entire building is surrounded by a 12 feet veranda, the outer edge of which rests on pillars 3 feet 6 inches in height, which stand on the coping of a wall which sustains the earth all around the building, to the height of 6 feet. This coping lies only its thickness above the surface of the surrounding grade.

Thus it will be seen that a full supply of light is secured in the basement apartments. A paved area under the veranda surrounds the building; it is 6 inches below the floor of the basement. By this arrangement no earth comes in contact with the walls of the basement; hence the apartments are dry and well lighted. Full provision is made to secure perfect ventilation in the area and basement, by an underground, descending air-duct, laid below solar influence, which discharges the air on the surface of the ground, remote from the building. The earth surrounding the duct being cooler in Summer than the atmosphere, the air in the duct is cooled, and in consequence of its increased density, it flows down and is discharged at the lower end of the duct; the vacuum thus produced being constantly supplied with fresh, pure air, perfectly ventilates the area and basement. The action of this subterranean air-duct is reversed in *Winter*; the air in the duct being more rare than the external atmosphere, rises through the duct, is received into the area and basement, thence supplying the entire building with it in *Winter*, nearly at the same temperature as the earth.

The apartments on the principal floor are truly elegant in form, and when all thrown open to the hall, constitute a suit, which in point of beauty and grandeur, cannot be excelled.

The building has but one chimney. It is heated by circulating hot water, or by the use of an automatic steam heater; in either case, by indirect radiation; the radiators being placed in heating chambers in the basement.

The heating flues are to be concealed in the angular spaces between the rooms. These spaces also form spacious and effective ventilating shafts, all of which open to the cock-loft, which is ventilated into the chimney under the roof. The smoke pipe from the cooking range in the basement kitchen, extends to the top of the chimney, heating it and making it a powerful ventilating shaft, by which the kitchen and all the water-closets are so thoroughly ventilated, that it will not be known that these indispensable features, so offensive, are in the building. In the area, under the veranda, and adjoining the fuel room, is a swimming bath, 11 feet by 25 feet, with spacious, well lighted, and ventilated dressing rooms adjoining. The means of supply of water will depend on local circumstances.

In the butler's pantry is a sink with hot and cold water, a dumb waiter in which all articles to be refrigerated are placed, and may be precipitated to the level of the bottom of the ice-pit under the laundry, and drawn back again to the pantry at pleasure, thus avoiding the necessity of any other refrigerator, or of taking any ice out of the pit for that purpose.

There is also another dumb-waiter, connecting the kitchen with the butler's pantry. The veranda surrounding the entire building is a feature of extraordinary luxury and convenience, which will be readily and fully appreciated by all persons of taste.

There is a fine roomy carriage porch, paved with flags; it is to have a chandelier suspended from the centre of its ceiling, lighting it, the veranda half way around the build-

ing, the parlor, the billard room, and the main hall, with out having the lamps or gas-burners in the apartments, by which arrangement, insects and vermin, so annoying of a summer evening, will be effectually kept out of the building, while it will be pleasantly lighted.

As many persons enjoy much the cheerful appearance of a fire, even though the apartment may be well heated, there is provision for an open fire in the dining-room.

There are large balconies over the veranda, both in front and rear of the building, only one of which can be shown in a front elevation. There is also a fine balcony all around the lantern, or cupola. This is reached by steps from the rear balcony, and constitutes a fine prospect tower, commanding a view in every direction.

Considering the above description sufficient in detail to make the plan intelligible to those who take sufficient interest in it to study it, it is respectfully submitted.

#### TO ENCOURAGE AND PERPETUATE WHITE CLOVER.—

This being one of our English bottom grasses on all good pastures, and having particularly noticed it in many parts of the United States, I can affirm with confidence that keeping the land grazed so close as to prevent seeding as much as possible, is the best way to encourage and perpetuate it—it will seed some if grazed under an inch high—but it increases wherever closely eaten or mowed. Let any one use his own eyes in preference to any one's assertions. Look at the spaces near gateways in pastures; look at roadsides near villages or any places where cattle, sheep, &c. graze close and there will be seen white clover; and let the advocates of eating half and leaving half the grass to rot on the ground, show any among the mass of dead herbage left to decay and manure the soil that way, instead of passing through the bodies of animals and fertilizing the ground the better way — *Cor. Country Gentleman.*

KEEPING CIDER AND GRAPES.—A correspondent at Centreville, Ind., communicates the following to the *Germantown Telegraph*: Allow me to tell you how we keep cider. After it has stood long enough for the pomace to settle, put the cider in some clean vessel, a tin wash-basin is the best, and let it come to a boil; then pour it into jugs, cork and seal tightly, and it will keep good and sweet for years. Jugs cost but little more than wooden vessels to keep it in, and with care, there is no danger of breaking them in pouring in the hot cider. We have tried various methods and find this the best, as the heating does not impair the taste as much as is done when you put anything in it to keep it.

I can keep grapes until spring by wrapping each bunch in paper and putting them in a box away from heat or damp—a dry room or loft is best.—Care must be taken that the bunches be fully ripe and sound before pulling. By these means we have the luxury of grapes all winter.



## Horticultural.

### WHEN AND HOW TO BUD.

Budding, we need hardly say, is the process of removing a bud from one tree or plant and inserting it in another tree of allied species.

The object of budding is the same as of grafting, viz : to propagate a desirable sort of tree or plant. The only difference between a bud and scion is, that the latter is a development of the former. Fruit can generally be obtained by grafting two years sooner than by budding. But when a variety is very rare, we can by budding get new limbs from single eyes, whereas in grafting we have to use three or four eyes. Some trees, moreover, propagate more readily by budding than by grafting. The stone fruits exude so much gum when grafted, that it is hard to succeed in the work. Then, too, in all kinds of fruit, where grafting has failed or been forgotten in spring, budding may be resorted to in summer.

The usual time for budding is from the first of July to the middle of August. But a more accurate rule is to be found in the state of the buds and the bark. The shoot from which the buds are taken must be of the current year's growth and must be mature. This maturity will be shown by the forming of buds at the axils of the leaves and of the terminal buds. The best buds for working will be found along the middle of the shoot. Plums usually finish their growth earlier than other trees; hence they should be budded earliest. Next come cherries, and then pears, &c. The bark must be in a condition to lift easily from the wood, and there must be sap enough between the two, to feed the young bud, and to help form a union with it.

The practical operation of budding is simple. The method commonly followed in this country, called *shield-budding*, is as follows: Having cut a scion containing several good buds, choose a smooth, young limb for the operation, and, if possible, let the insertion be made on the north side of the limb. With a sharp, thin bladed knife, cut a slit through the bark about an inch and a half long, and a cross cut at the top of it. Then from your scion slice out a good bud, leaving a little of the bark attached. Now, with the other end of your budding knife, raise the bark of the stock, and slip the bud into the slit, and press it down to the bottom of it. Finish the work by tying down the bark and bud with bass matting or woollen yarn so as to exclude air and moisture from all except the point of the bud.

Do the work quick, otherwise the bud will dry and be less likely to grow. A minute is full long enough.

**AFTER TREATMENT.**—In a fortnight after, examine the buds to see whether they have "taken." This may be determined by their freshness and plumpness. As soon as they have "taken," the bandages should be loosened a little, to allow for expansion of both stock and bud. On the opening of the following spring, the stock should be cut off with a sloping cut, two or three inches above the bud. The bud will now grow with great vigor.—*Rural American.*

### SUPER-PHOSPHATE FOR FRUIT TREES.

I have seen super-phosphate recommended very highly for fruit trees, especially pears. Have you any experience on this subject? If so, please tell me how much is wanted for trees five feet high this spring, but cut back to three feet when I set them out. Also say how best to apply it—in a drill as we do guano, made in a circle round the stem of the tree of one to two feet or more? This drill I usually make three inches deep, and after putting in guano, cover it up, thus preventing the ammonia from escaping. It then gradually dissolves and reaches the rootlets. I suppose the true distance from the trunk of the tree should be a circle reaching about as far from it as its rootlets would spread by the first of July, and this in a five-foot tree set out this spring, would probably be on an average of two to two and a half feet, making the circle round the body of the tree four to five feet or so. Or is this too large a circle? A.

We have never employed super-phosphates as a fertilizer for fruit trees, but have no doubt it would operate as with the various farm crops—that is, sometimes produce decided results, and at others no perceptible effect. This is our experience with it applied to different vegetables. Special manures are variable in their influences; for example, we have known wood ashes applied to nursery pear trees, to double their growth in one season; and again, on a soil apparently similar, but obviously differing in some respects, not the slightest influence was perceptible. To obtain the best result, we should prefer to apply super-phosphate broadcast, as the rootlets are distributed over a considerable surface, scattered along the sides of the larger roots to their tips. The whole surface should be dressed for large trees; but for those set out last spring, in a good soil, and well cultivated, we would not recommend a less circle than five feet in diameter, as the roots push rapidly through all the early part of the season. The quantity would vary with soils and circumstances; but for a circle five feet in diameter, half a pound would be ample, and at the same rate for larger circles. It should be worked with the hoe or cultivator.—*Country Gentleman*

## In the Garden.

Autumn work in the garden embraces almost everything in the way of securing and preserving. By this time all the tender flowering and other plants should be put under shelter. Dahlia and other late-flowering bulbs keep best either in dry sand in the cellar or simply upon a scaffolding where they will not freeze, or sprout by too high a temperature from heaters. A number of flowering-plants that will not stand open exposure, can be preserved by laying down and covering with an inch or two of earth. To protect them some people stick round them cedar branches, and this in many instances is a protection. It is, however, more trouble and less certain than laying down where there is the room to do it.

It is useless to attempt to raise fine raspberries if allowed to endure the blasts of winter. Satisfactory crops it is impossible to obtain. Prune the canes ready for spring, and lay down in the rows, covering with about two inches of soil, or cover with leaves or straw, and they will come out in the spring in perfect order. This work, however, should not be done until the end of November, unless there is an early winter.—*Germantown Tel.*

## Scraping and Washing Fruit Trees.

Perhaps October and November, says the *Germantown Telegraph*, are the two best months of the year for scraping and washing fruit trees—apples and pears. The insects which hide in the bark and crevices of the trees have by that time retired to their winter quarters, and can be easily destroyed. There is nothing equal as a "wash" with which to scrub the trees than a preparation of say one pound of whale-oil soap to a large bucket of water, well dissolved. There is nothing more nauseous to insects than this. It will lay "cold" everything that we have tried it on but the curculio—that, however, cares no more for the mixture, even though accompanied with sulphur, lime-water and tobacco juice, than if it were a gingerly dose of pure spring water. But rose-bugs, and the steel-blue grape bug, surrender to its power inconspicuously. Every farmer and gardener ought to have a supply of this soap on hand for use whenever necessary. Apple and pear trees well scraped and then washed with this preparation will not only be freed from some of the chief insects preying upon foliage and fruit but will sensibly feel its invigorating effects.

**THE CARROLL COUNTY FAIR.**—The attendance at this Fair was large—the display of fine stock reflected credit on the county—the implement and household departments were attractive, and altogether it was a great success.

## Jerusalem Artichoke.

Since the failure in some localities of the potato crop by reason of the rot, and its greatly reduced yield everywhere, experiments have been made with the Jerusalem Artichoke (*Helianthus tuberosus*) as to food for stock. A Canadian gentleman, who has given his attention to this matter, thinks it equally as valuable as the potato—that more food can be obtained with less labor than from any other source, from 1000 to 2500 bushels per acre not being an unusual crop, and that the fact that they can be kept over winter and dug in the spring is a great argument in their favor.

A gentleman of our acquaintance planted in the spring of 1869 about half a peck, from which he harvested over twenty bushels, which his stock consumed with great avidity. He considered the question of their value for feeding to stock, especially hogs, as settled. In Europe, the Jerusalem Artichoke is highly esteemed, and we incline to the belief that the time is coming when it will take conspicuous place in our husbandry, and we are confident that the results of its culture will be eminently satisfactory.—*Hearth and Home.*

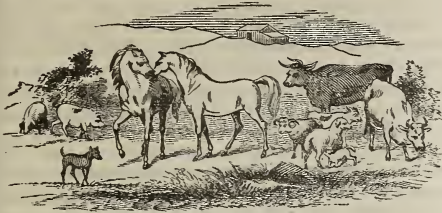
**WINTER PROTECTION.**—Much of the protection given to plants and gardens, says the *Hearth and Home*, is needlessly elaborate. The old style of gardener is, in these autumn days, busy with his straw and strings, and prides himself upon the neatness with which he does up a half-hardy shrub for its winter's sleep. Much of this work of strapping up is quite useless, as we can give plants their needed protection with much less trouble. The boughs of evergreens—especially the Red Cedar—are most valuable as a winter covering. Laid over small plants, their elasticity prevents their becoming packed down, and they give abundant shelter from sun and cold winds. It is the case with some of our rare evergreens that they are hardy enough after the first winter or two; but they need protection until they become thoroughly established—Cedar-boughs secured in the tops of such plants will give the needed shelter better than can be afforded in any other manner.

**PURDY'S SMALL FRUIT INSTRUCTOR.**—This is a valuable little work, containing directions for planting, growing and marketing small fruits, equally adapted to the family garden as well as the field. Send twenty-five cents and get a copy. Address A. M. Purdy, Palmyra, New York.

**MONTGOMERY COUNTY FAIR.**—The 17th Annual Fair of this old association was held on the 14th of September. The entries of live stock and the other departments were large and of a superior character.



## Live Stock Register.



### POPULAR ERRORS CONNECTED WITH VETERINARY MEDICINES.

Mr. W. Ernes, M. R. C. V. S., L., in writing on some of the popular errors connected with veterinary medicine, says: "One of the most serious of the popular errors connected with veterinary medicine is that of preventing a horse from lying down when suffering from colic. The great anxiety evinced by the suffering animal to lie down shows the relief given by the recumbent position."

Another error is cutting out the lampas, as it is vulgarly called, which is usually done with a red-hot iron. Young horses, in which the incisors, as a rule, are short, and, in consequence, the palate prominent, are said to have the lampas as soon as they evince a loss of appetite; and if a sensible practitioner refuses to cut or burn them, the horse is taken to a farrier, who is always ready with his hot iron to perform this useless and cruel operation.

Another great abuse is that of diuretics, which are constantly administered, either in the shape of balls, or nitrate of potash, in the animal's food. Being sedatives, they weaken the animal, and, moreover, they not unfrequently bring on disease of the kidneys. A horse in usual health requires no medicine of any kind, and all balls, whether cordial, cough, condition, or alterative, are to be condemned.

The periodical bleeding and balling of horses should be likewise condemned. Firing, to strengthen the limbs in race-horses and hunters, so much in repute with trainers, hunting and stud grooms, has, fortunately for the poor animals, gone out of fashion. Firing is at best but a very questionable remedy.

It is a mistake to give medicine in the shape of balls to neat cattle, as from their shape and specific gravity they will fall into the rumen, where they remain inert until returned to the mouth in the act of rumination, when they are rejected by the animal on account of their bad taste.

Worming of dogs is another absurd and cruel operation. The supposed worm is a portion of a ligament under the tongue, which enables the dog

to lap. It was originally supposed to be the cause of hydrophobia. With this we may class another absurd practice—the removal of the horny pellicle at the end of the tongue of fowls, to cure the so-called "pip." The swelling of the tongue is only the symptom of an internal affection, which cannot be cured by this operation. We can only regret that the maladies to which fowls are subject are not more studied, as the rearing of poultry becomes daily of more importance, and might be made one of the most lucrative branches of rural economy.

The "nicking" and "docking" of horses' tails, the "cropping" of dogs' ears and tails, and the fighting of cocks, are subjects that deserve and will receive the vengeance of our esteemed and worthy friend, Mr. Bergh, Pres. of the New York Society for Preventing Cruelty to Animals.

### IMPROVE YOUR SHEEP.

Most men who breed sheep are accustomed to isolate the rams about the first of August, and return them to the flock again about the first of November, or later, as the latitude may determine.

Through the middle tier of States, the first of April is probably the best time for spring lambs. The mothers need green food as soon as may be after their young are dropped, and that is generally ready from the 20th of the month to the first of May. Further north, the middle of the month is early enough, as the weather is colder and the starting of the grass much more backward.

To keep the flock constantly improving, the first necessity is to

#### CHANGE BUCKS FREQUENTLY.

We would suggest every year, if it is possible, to make a selection from a foreign flock that shall equal your own.

Another way is to hire a thoroughbred ram at any reasonable cost, and thereby introduce into your flock blood that will improve it, always keeping in mind, when the selection of a sire is made, what you propose to do with the progeny that shall come from this animal. One whose aim it is to get early and good lambs for market would not introduce merino blood; or, if he wanted fine wool, neither a Cotswold nor Southdown.

Not less in importance is

#### BREEDING FROM THE BEST EWES.

Any flock of sheep will deteriorate unless the best are saved for breeders. Seven seasons are enough for even the best of sheep to be used for mothers. After nine years old, they lose so much of their vitality and their milk producing qualities, that the lambs are generally below the average. As soon as the lambs are weaned—which should be by the middle of September, if they were born the

middle of April—all the ewe sheep in the flock that are not of suitable age, of suitable form, and of suitable health for mothers, should be taken out, and in some way be disposed of. They can generally be fattened in the fall or early winter, and either sold to the butchers, or, if the number is not too large, can be consumed in the family, in lieu of more salable but not more nutritious meats.

The place of these thus discarded should be always filled from the best of the lambs, if it is desirable to keep the flock about the same size. Hundreds of farmers who sell early lambs are guilty of the folly of selling the best, and allowing those that will not sell to go through the winter, and eventually become mothers. This would seem to be a saving, but it is, instead, suicide. When the best are saved for breeders, the flock is constantly improving; when the poorest are permitted to become such, there is a gradual deterioration, and an ultimate (to use an expressive phrase) running out.

No farmer is worthy the name and age who is not always on the alert to make both his farm and the stock upon it better. It does not require capital to do this so much as it does care, and in the end the best farming and the best stock-raising pay the best; and to the bottom line all eventually comes.—*Hearth and Home.*

#### Stock Need Access to Salt.

It is a bad practice to give animals of every kind, a liberal supply of salt, once or twice a week. A writer in the *Evangelist* says, that some farmers complain that their cattle, if allowed full swing at a salt trough, eat too much—scour, sicken, sometimes die. We believe it; but it was only because they had been deprived of salt too long; or they were newly purchased and brought home, and somebody else had deprived them of it. They will never consume more than is required for their best health and their most profitable return for keeping, provided they have it by them always. We have tried it out and out, many years, with a large stock; and we never knew one to be harmed by salt, *ad libitum*, except those just bought, and brought to a plentiful supply after being long deprived of it, and those not badly. We never knew a cow, or, steer, heifer, or calf to sicken when they had salt to their liking regularly, and were well kept otherwise. If under cover, any vessel, so fixed that it cannot be upset, will answer the purpose of containing the salt. If in the open pasture, the trough should not only be made fast to the ground, but should be so deep that no rain will fill it to overflowing. Let a nail cag be sawed in two, and fixed in the middle of a small heap of stones, for a salt-tub.

#### USEFUL RECIPES.

**AGE, MODE OF PROCEDURE, &C., FOR RINGING PIGS.**—Before turning pigs out to pasture is the proper time to ring them, say from six weeks to six months old. The mode of procedure is as follows: A noose is run about the pigs lower jaw and this fastened to a stake—the pig will pull against this. His hind legs should however be secured by aid of an assistant to prevent him running forward. The operator next goes a straddle of the pig and steadying him by a hold on the lower jaw pierces the gristly part on top of the snout with a broad awl, such as that used by harness-makers for piercing leather, the ring which is made of wire say two sizes smaller than telegraph wire of the shape of an inclosed circle and one inch in diameter is then run through the part pierced and the ends closed by a pair of forceps.

**SORE FOOT IN COW.**—Pare the foot of the cow clean to see whether it has been pricked anywhere, and prick it all over to ascertain if there be any tenderness. If found, pare down upon it, allow the escape of any matter under the horn, pare off all horn detached from the quick, and then the edges of the surrounding sound horn; poultice for a few days; then, as matter ceases to be produced, bandage with tar and tow. The stiffness may, however, arise from some other cause; perhaps from congested udder. If so, foment for an hour at a time twice a day with warm water, and rub actively with lard or spirits when you stop fomenting. Draw off the milk, and keep the cow on somewhat low diet.

**BIG JAW.**—Make a liniment of gum camphor and alcohol, rub it in well, warming it a little first. The rubbing must be persistently applied to produce the effect desired—a casual application will not suffice.

**INFLAMMATION OF LUNGS IN PIGS.**—The disease you describe was inflammation of the lungs; Pneumonia, or Pleurisy, or both. In the first stage it might possibly have been got under by copious bleeding and friction with stimulating ointment over the region of the lungs; minute and frequent doses of Tartar Emetic should also be given in butter; all food of a stimulating nature carefully avoided and the animals kept dry and warm. The cause of this disease is damp lodging, foul air, want of ventilation, and unwholesome food.—*Above from American Stock Journal.*

**WARTS.**—Warts can be removed in different ways according to their form and location. Those warts which have a neck are easily taken off by means of a thin but firm string made of flax, hemp, or silk, tied around the neck of the wart at its base, just as tight as it can be done. After some time it will die and drop off. If the wart is flat and has a large basis, the above method cannot well be executed, and then it is best destroyed by caustics. I frequently use for that purpose the pure nitric acid, and apply it by means of a little bit of sponge tied to the end of a stick. If the wart is not very large, the nitric acid may be applied every two or three minutes till the whole mass is destroyed. Great care must be taken that the nitric acid does not come in contact with other healthy parts of the skin.—*Cor. Chicago Tribune.*

**CURE FOR GALLED SHOULDERS ON HORSES.**—Put two ounces of indigo into a pint of whisky, shake and apply three times a day, after washing in soft water. I have seen very bad cases cured in a few days, and the horses worked every day.

**COLIC IN HORSES.**—Take one tea-spoonful of the salt of tartar, to one pint of water—shake well and drench the animal with it, and if not relieved in one-half hour, repeat the dose; but I do not think you will have to repeat the dose.—*Cor. Southern Cultivator.*



## Ladies Department.

### THE UNFINISHED PRAYER.

"Now I lay me"—say it, darling,  
"Lay me," lisped the tiny lips  
Of my daughter, kneeling, bending  
O'er her folded finger tips.

"Down to sleep!"—"To sleep," she murmured,  
And the curly head dropped low,  
"I pray the Lord," I gently added,  
"You can say it all, I know."

"Pray the Lord!"—the words came faintly;  
Fainter still, "My soul to keep,"  
Then the tired head fairly nodded,  
And the child was fast asleep.

But the dewy eyes half opened  
When I clasped her to my breast,  
And the dear voice softly whispered,  
"Mamma, God knows all the rest."

### HOW MANY WIVES FADE.

How many pale, lifeless women you see in the West and in the East, too, as for that matter. Young, fresh looking women marry, and in five or ten years you can scarcely recognize them, while their husbands looks as well as on the day of their wedding. One cause of this is complicated house-keeping. When a man understands a business, he finds learned men ready to assist him; he knows what there is to do and secures help accordingly. A young woman goes to housekeeping very often without any help at all, or perhaps with one awkward girl, like the wife in this respect. There are three meals to get every day—that means cooking; and then come the dishes to be washed after each meal. It would take about forty-five pieces for breakfast and supper, and seventy for dinner for a family of five—one hundred and sixty-five pieces to be carried from the kitchen to the dining room every day, washed and carried back. If you have six rooms in your house there is one to be thoroughly swept and cleaned daily, besides brushing up the others, making beds, bringing in wood and carrying in water.

Twice a week there is bread-making, twice a week yeast making, one day washing, one day ironing, pantries and safes to be washed out once a week, dairy work to be attended to, besides innumerable jobs in the way of preserving, jelly-making, pickling, curing hams, putting down pigs' feet, looking over apples twice in winter, and making hogs-head cheese mince meat, a thorough house, cleaning twice a year, then sewing on dresses, aprons shirts, drawers, gowns, etc., by the dozen.

Then supposing the house keeper has a baby—an average six months old baby that weighs about eighteen pounds. Suppose she has this child in her arms thirty times a day (a cross infant is taken up more frequently,) and is obliged to work with the right arm whilst carrying the burden of a baby about with the left. Who is it that says there is nothing in gymnastics equal to the endurance of a mother's arms? Even when the day's labor is accomplished, and she goes to bed, she still holds her baby and does not sleep soundly for fear of rolling on it or of its getting uncovered; she must attend to its wants several times in the night, and must be in a constrained condition for fear of disturbing it.

I have heard women say they would give almost anything for a night of undisturbed sleep, 'with no care on the mind.' Then in the morning up and at it again. Don't you see why women get pale, and why sometimes a little cross, and how their husbands wonder that their wives don't look pretty and dress well, and entertain them as they did before they were married?

The wives don't reason on the matter; they think it all the man's fault, and then they turn cross, and so things go at sixes and sevens, and this is the place where woman's rights should be taken hold of. I don't think voting would help that very much; woman's labor should be made a study. In the first place, men must realize that it is a great labor to keep house. A great many women sink down under the weight; then every-body says:—'Poor thing, she always was a weakly, good-for nothing creature;' and the poor thing, has been doing more for the past ten years than two women ought to have done.—*Ex.*

### HOUSEKEEPING.

After our confirmation, my father wished Fredrika and me to go through a regular training of household duties, and to learn the art of cooking. In the beginning we had each our week, when, under the superintendence of the housekeeper, we had to give out to the cook everything that was required for the various meals, and to see that nothing was wanted at table. Later in the summer a clever superior cook was engaged from Stockholm, and as we were to learn to prepare the most delicate dishes, we had a feast every day. My father who was very fond of the luxuries of the table, thought this delightful; and we, especially myself, found it very pleasant to prepare the choicest viands. Many times in my life have I gratefully acknowledged my parent's wise idea, to let us learn thoroughly all that belongs to the management of a house and household. A wife who has learned all this in her youth, becomes quite independent of her servants' ignorance, and will have everything in her house good, but less expensive than if she had no experience in these matters.—*Life, Letters and Posthumous Works of Fredrika Bremer.*

### WHAT IS HOME.

"Home," says Robertson, in his sermons, "is the one place in all this world where hearts are sure of each other. It is the place of confidence. It is the place where we tear off that mask of guarded and suspicious coldness which the world forces us to wear in self-defence, and where we pour out the unreserved communications of full and confiding hearts. It is the spot where expressions of tenderness gush out without any sensation of awkwardness, and without any dread of ridicule. Let a man travel where he will, home is the place to which 'his heart untravelled fondly turns.' He is to double all pleasure there. He is to divide all pain. A happy home is the single spot of rest which a man has upon this earth for the cultivation of his noblest sensibilities."

### PREPARING THE GROUND FOR FLOWER SEED.

The soil for flowers should be a mellow loam, if possible, made deep—a foot or eighteen inches at least—and then plants will not suffer so much in dry weather. It should also be well pulverized—completely broken up—and made as fine and mellow as possible. It is useless to try to grow good flowers on a poor soil, so if not naturally rich, make it so with a liberal supply of well rotted manure.

Every one, even those who do not keep a horse or cow can have a good pile of manure for flowers without cost. Obtain a lot of turf from the sides of the roads and the corners of the fences, place it in a pile and throw all the soap suds and slops upon it. In the autumn collect the fallen leaves and put them upon this compost heap. Keep adding to it as you have time and convenience; and when well rotted you will have excellent manure for flowers. Always drain the flower garden so that water will not lie on or near the surface.—*Vick.*

## MAKING BREAD.

In a recent number of *The Household*, Jenny asks how to make good light bread that will not be full of holes. I see it answered by S. Loomis; but I think my way better. First, you must have good yeast, of which the following is my recipe: Take nine medium sized potatoes, boil in two quarts of water, mash them fine. Steep one cup of hops in half pint of hot water, strain off pressing the hops. Add together the potato-water, hop-water, the mashed potatoes, two tablespoonfuls of salt, two of good ground ginger, one cup of sugar, and when blood warm add one cup of stock yeast (such as here described) or for first start use brewer's yeast; put in a jar and keep in a cool place, where it will not freeze, and it will keep good about two weeks. Let it stand at least twenty-four hours before using.

To make the sponge, which should be in the evening, take a deep vessel, put in three quarts of warm water, one cup of the above yeast, stir in flour enough to make a stiff batter and set in a warm place. In the morning, put in two quarts warm water, salt it, (if the dough inclines to be running from bad flour put in one teaspoonful of powdered alum dissolved in warm water). Knead the dough till it is smooth and cover it with a cloth in a deep vessel; keep it warm (not hot), let it rise and then mold into six loaves, let it rise again till light, and then bake. If you don't find this good I want to hear from you.—*The Household*.

WOMEN'S CONVERSATION.—It is very well to call the conversation of women trifling and frivolous; if it is pleasant and grateful it is all that can be desired. Conversation should be the relaxation, not the business of life; and the moralist, who require that it should always be of an "improving" character have no idea of its proper social uses. Improving! Have we not sermons, good books, lectures, institutions, and a complicated educational machinery enough of all kinds to improve us all off the face of the earth, if nature did not oppose a little wholesome duncehood to this sweeping tide of instruction? Must the school master follow us into our little holiday? If the "queens of society" will only give us talk which shall be bright without ill-natured sharpness, playful without silliness—if they will show us that affection, vanity, jealousy, and slander are not necessary ingredients in the social dialogue, but that rather they give an ill savor to the wittiest and the cleverest play of words—if they will remember that good-humor, sympathy, and the wish to please for the sake of giving pleasure, will lend a charm to the most common-place thoughts and expressions—their conversation will "improve" us, perhaps, quite as much as most popular lectures and some popular sermons.

## WINNIE.

Bless me! here's another baby,  
Just as cunning as can be,  
Eyes as blue as bonnie blue bells,  
Breath as sweet as rosemary;  
Smile a tiny, flashing sunbeam,  
Hair of purest, fairest gold,  
Hands and shoulders full of dimples,  
Little Winnie, eight months old.

Making funny, cooing speeches  
Nobody can understand—  
Such a quaint and pretty language,  
Only spoke in baby-land.  
Should I sing all day about her  
All her sweetness were not told—  
She's a bud, a bird, a fairy,  
Little Winnie, eight months old.

## DOMESTIC RECIPES.

NOURISHING JELLY FOR INVALIDS.—The following is Dr. Bailey's recipe from the *Englishwoman's Domestic Magazine*: One pint of port wine, two ounces of isinglass, two ounces of white sugar candy, one ounce of gum arabic, and half a nutmeg, grated; these ingredients to be put in a jar, and the jar to be put into a saucepan of warm water, and allowed to boil until all is dissolved. It must be stirred continually, but need not be strained. When cold, it will be a firm jelly, a piece of which about the size of a nutmeg, may be taken at any time.

Bologna Sausage.—May be made of any good lean parts of beef. Chop 4 pounds of beef, 2 lbs. of fresh lean pork, and 2 lbs. suet. Free from strings, and mix thoroughly. Season with 2 ounces of salt, and as much powdered pepper and cloves as suits your taste. Stuff these sausages in beef skins nicely prepared. Boil them and then smoke well. They are sometimes dried without boiling, and are used raw. They are a very common resource for travellers who have to be their own commissaries. Sausages made wholly of beef are a very good article for family use.

TALLOW.—The strippings from the intestines and leaf suet not wanted for cooking purposes, should be cut up small and put into an ample kettle in which some tallow had been first melted to prevent burning at the bottom. Stew moderately until the cracknels are brown and crisp. Strain it off into vessels to mould, or into a keg for market.

SIMPLE GARGLE FOR SORE THROAT.—In many cases of slight soreness of the throat, it is not deemed necessary to apply to a physician for a prescription. In such cases a gargle, composed of hydrochloric acid, two drams; water, six drams; and decoction of Peruvian bark, four ounces.

NEW METHOD OF PRESERVING EGGS.—Dip them into a solution of gum-cotton, (collodion), so as to exclude the air from the pores of the shell; or the collodion may be applied with a brush.

CURE FOR WARTS.—Take a piece of fresh beef; soak in vinegar for twenty four hours, shave it into very thin slices, and bind upon the wart, renewing the application for three or four days, when a cure will have been effected. The same application is said to cure corns.

GINGERBREAD.—Some ladies wish to make it without sour milk, or eggs. Here is the way: "Put one teaspoonful of soda in a teacup; put in five tablespoonfuls of hot water, four of melted shortening, then fill the cup with molasses. This makes one tin. A heaping teaspoonful of ginger in the flour. Make it rather stiffer than you would if eggs were used."

BEST GRAVY.—Put two tablespoonfuls of fat, a pound of meat, an onion and a carrot sliced, and a little broth on the fire. When the meat is well fried water is to be added. It is impossible to make good gravy without carrot and onion, as each contains sugar, which gives the gravy a pleasant flavor. The volatile oil of the onion evaporates while frying, so that the gravy has no pungent taste or smell.

FRIED CHICKENS.—Annie Lee, in Germantown Telegraph, gives the following:—Cut up the chickens and lay them in cold water to extract the blood. Wipe them dry, season with pepper and salt and dredge them with flour. Fry in lard to a rich brown; take them out and keep them near the fire; skim the gravy carefully in which the chickens have been fried, mix with it half a pint of cream, seasoned with mace, pepper, salt and parsley.

How silver-sweet sound Lover's tongues by night,  
Like softest music to attending ears!